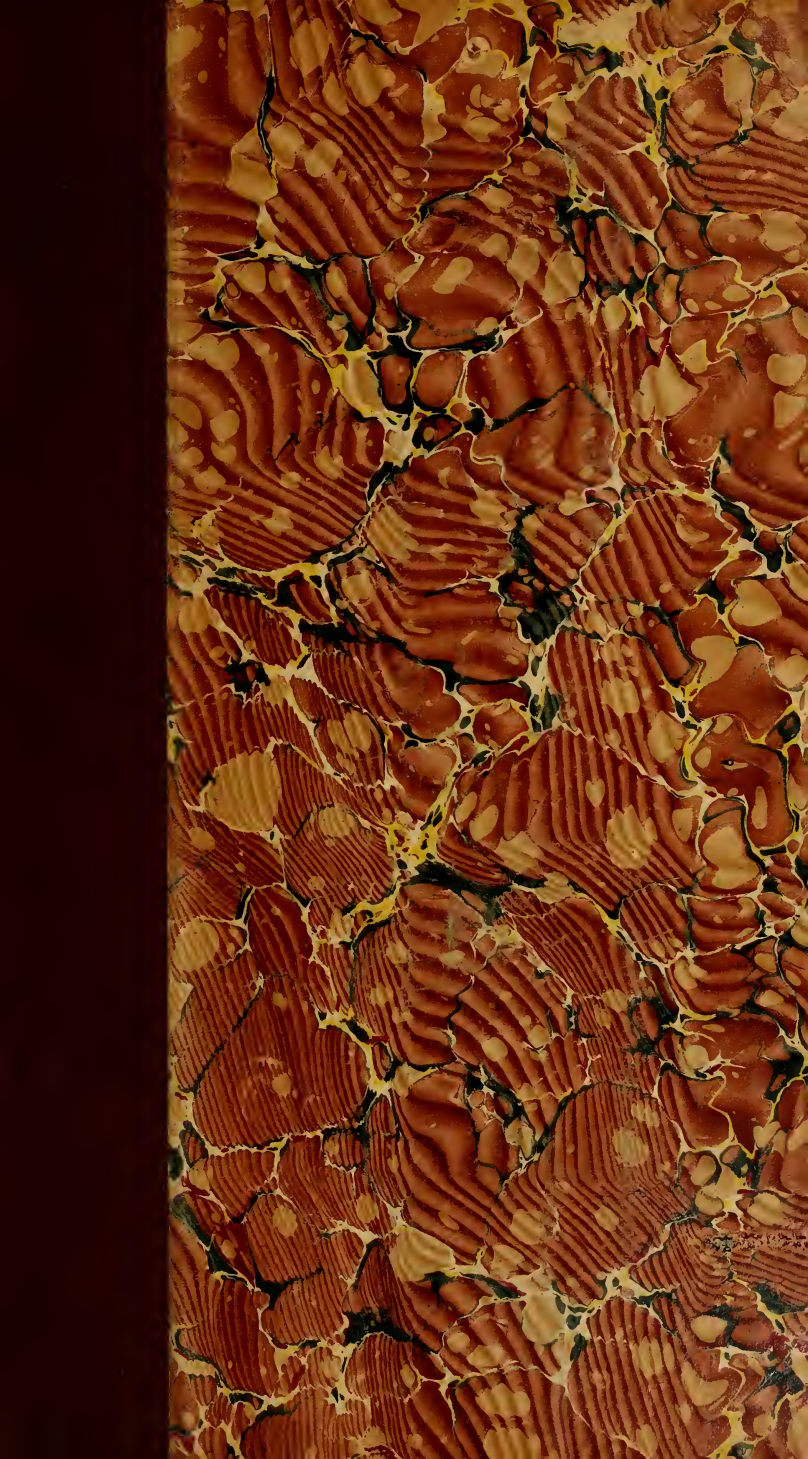




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Charlotte, N. C., July, 1918

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The Charlotte Medical Journal

VOL. LXXVIII

CHARLOTTE, N. C., JULY, 1918.

No. 1

TYPHLITIS-APPENDICITIS: WITH REPORT OF SOME INTERESTING CASES.*

By J. W. Wallace, Concord, N. C.

The term Typhlitis comes from the Greek word "ΤΥΦΛΙΟΝ" meaning cecum and the Latin word *itis* meaning inflammation—therefore, inflammation of the cecum, while the term Appendicitis comes from two Latin words—*Appendere*, meaning the appendix, and *itis*, inflammation—therefore, inflammation of the appendix.

The term Typhlitis was formerly used up until the time of Fitz, and Parker, for the condition now called appendicitis, but at the present time we have differentiated the two conditions, and have learned that we can have typhlitis without appendicitis and appendicitis without typhlitis, or, we can have the two conditions at the same time.

However, the differentiation here between the two conditions, is absolutely necessary in order to be able to appreciate the treatment to which we will refer presently.

Within the last ten years we have seen the development of an immense amount of surgical literature devoted to the etiological, pathological and clinical significance of the true and adventitious mesenteries of the abdominal viscera.

The number of cases that have not been relieved of pain in the right lower quadrant by an appendectomy is a constantly increasing quota of our surgical patients. The change from the 1½ inch incision to the larger and more ample abdominal incision has brought about a closer operative inspection of the accessory surgical fields and has revealed a number of symptom-producing aberrations of structure.

These observations on the living, have been combined with extended dissections on the dead, all tending to elucidate the anatomical conformation of the abdominal viscera in the fetus; the child and the adult. And as a result, we are beginning to arrive at some definite surgical conclusions.

Now in order to get a clearer impres-

sion of the pathological conditions which take place in typhlitis, let us freshen our minds, briefly, with some of the anatomical conditions, and structure as well, of the caecum.

The "Caecum," as you well know, is the large blind pouch or cul-de-sac, situated below the ilei-caecal valve, in which the large intestine commences. Its blind end is directed downward, and its open end upward, communicating directly with the colon, of which this blind pouch appears to be the beginning or head, and hence the old name *caput caecum coli*, was applied to it. Its size is variously estimated by different authors, but on an average it may be said to be two and a half inches in length and three in breadth.



CROSS SECTION OF
NORMAL CECUM

It is situated as we well know in the right iliac-fossa, above the outer half of Poupart's ligament, and rests on the iliopsoas muscle and lies immediately behind the abdominal wall. As a rule it is entirely enveloped on all sides by peritoneum, but in certain number of cases, about 6 per cent., Berry says, the peritoneal covering is not complete, so that a small portion of the upper end of the posterior surface is uncovered and connected to the iliac fascia by connective tissue. The caecum, normally, lies quite free in the abdominal cavity and enjoys a considerable amount of movement, so that it often becomes herniated down the right inguinal canal, and has occasionally been found in an inguinal hernia on the left side, I myself, have frequently re-

*Read before the N. C. State Medical Society, April 16th, 1918, at Pinehurst, N. C.

moved the appendix through my incision made for operating on the gall-bladder.

It was Treves who so kindly divided the caecum into four different types, as follows, briefly:

I. The caecum is conical, the appendix rises from its apex, the three longitudinal bands start from the appendix, and are equidistant from each other.

II. The conical caecum has become quadrate by the growing out of a sacculus on either side of the anterior longitudinal band. These sacculles are of equal size, and the appendix arises from between them instead of from the apex of the cone. This is found in about 3 per cent. of cases.

III. This type is the normal type of man. Here the two sacculles, which in the second type were uniform, have grown at unequal rates, the right with greater rapidity than the left. In consequence of this an apparently new apex has been formed by the growing downward of the right sacculle, and the original apex with the appendix attached, is pushed over to the left, toward the ileo-caecal junction. These longitudinal bands still start from the base of the appendix, but they are now no longer equidistant from each other, because the right sacculle has grown between the anterior and postero-external bands, pushing them over to the left. This type occurs in about 90 per cent. of cases.

IV. The fourth type is merely an exaggerated condition of the third; the right sacculle is still larger, and at the same time the left sacculle has been atrophied, so that the original apex of the caecum, with the appendix, is close to the ileo-caecal junction, and the anterior band courses inward to the same situation. This type is present in about 4 per cent. of cases; and this is the type that gives the most trouble known as "Typhlitis."

These deviations from the normal are protean in character and may be classified as of congenital, mechanical, or inflammatory origin. This then would bring us to a point to consider many or various conditions that would tend to produce intestinal, or cecal stasis, and naturally we would consider then first of all cecal adhesions.

The most noteworthy of these anatomico-pathological findings, are—1st, non-rotation of the cecum and large bowel; 2nd, unusual mobility of the cecum—cecum mobile—associated with distention and later atony of the bowels; 3rd, the

peri-colonic membranes, either cecal, colonic, splenic, or meso-sigmoidal, the most notable example being the so-called Jackson's membrane; 4th, the so-called adventitious mesenteries of Lane, the most prominent being Lane's kink, and the hepatic, and splenic mesenteries.

Symptomatically these conditions have been considered under the generic designation of chronic constipation, or obstipation and seems responsible for the various abdominal symptoms formerly considered without an adequate anatomical or pathological basis. A better name for the syndrome of symptoms associated with these adhesive bands is chronic intestinal stasis. This condition manifests itself by three well defined sets of symptoms: Local, general and remote. The local signs and symptoms are those of abdominal pain, tenderness and gastric disturbances, such as hyperchlorhydria, flatulency, etc., together with a varying degree of constipation.

The general symptoms are those of a colonic intoxication and are due to the presence in the circulation of a number of enterogenic toxins. The presence of these toxins in the circulation results in certain definite degenerative changes in several tissues of the body. The skin becomes thin, inelastic and wrinkled with an abundance of offensive perspiration especially in the axilla and groin. There is a progressive loss of weight, the circulation enfeebled and the blood-pressure is low. The ears, arms and legs are habitually cold even in the warmest of weather. There is marked loss of abdominal fat with the development of a flabbiness of the muscular system with the subsequent formation of a variety of visceral ptoses. Headache is common, usually of the occipital or frontal type; there is development of an induration in the upper and outer zone of the heart, usually the left side, and later this induration becomes more marked, undergoes cystic and inflammatory changes with intracystic proliferations, and finally the development of cancer. This picture may exhibit itself in a variety of forms and is undoubtedly the basic element in some of our cases of splanchnic neurasthenia. The remote signs are those incident to the development of a variety of arthritides due to the focalizing of septic materials in the joints or to injury to the synovial membranes of toxic end-products derived from the intestines.

Now, coming back to the adhesions of the cecum, the most important one to be found on or about the cecum is the so-

called Jackson's membrane. It takes its origin from the parietal peritoneum and spreads fan-like down over the ascending colon, and cecum, with or without implication of the appendix, and suggests a new adventitious vascular investing layer of peritoneum. It terminates at the inner border of the colon and appears to embrace the colon and cecum in a much too restricted diaphanous bag, thereby giving definite points of compression or constriction. In general this membrane exerts a malign influence by offering points of relative stenosis to the fecal current and in restricting the action of the circular and longitudinal fibers of the colon, and in addition it maintains a rather firm fixation of the colon to the posterior abdominal wall. As a result there is fecal stagnation with fermentation and the production of gas, then, of course, there would be a distention of cecum and colon with traction upon the parietal peritoneum, and development of pain from peritoneal traction. The appendix in most of these cases is small and sclerotic, but occasionally shows a capillary dilatation suggesting a subacute inflammation.

This latter would seem to be a coincidence rather than an associated finding.

By these membranous restrictions the cecum is exposed to mechanical conditions that are not normal, for upon the removal of this membrane the colon is released, elongates to nearly twice its restricted length and the fecal current is unimpeded. A secondary effect of this anchorage is the degenerative changes, ulcerations, mucous colitis, and Typhlitis, resulting from the absorption of toxic material.

As a next door neighbor to what has been described is the so-called Lane's kink, which is a flat band passing from the under surface of the mesentery of the terminal ileum to the adjacent aspects of the ileal circumference and gradually creeping around it until it has reached and bound down the antimesenteric border of the bowel. This cicatricial contraction of the peritoneum forming the posterior layer of the mesentery drags upon the ileum at a point about 2 inches from its termination.

The anchored portion of the ileum is not only kinked in one plane but its lumen is reduced by torsion of the bowel itself on its long axis. This results in a distention and dilatation of the proximal ileum which may extend up to the pylorus.

There are in general three main expla-

nations offered for the development of this condition. They are the mechanical, congenital and inflammatory ideas.

Lane believes that the pericolic membrane is an accessory mesentery formed to prevent the descent of the distended cecum into the pelvis. This tendency to falling is opposed by the formation of two series of resistances which develop as independent bands of peritoneum. The external group representing what we have described as Jackson's membrane, the inner representing the typical ileal kink of Lane.

This explanation pre-supposes a general, viscero-ptosis consequent upon man assuming the upright position in the course of his evolution.

The congenital idea is extremely attractive and is ably championed by Mayo, Connell, Flint and Gray. Mayo believes that these films are congenital defects due to "a late rotation of the bowel and descent of the cecum from its hepatic situation."

After the formation of the parietal portion of the peritoneal cavity in the infant the cecum burrows its way into position through the peritoneum. Flint believes that there is "in embryonic life, when the cecum is in the sub-hepatic position an excessive attachment between the parietal peritoneum and the lateral and ventral aspects of the cecum and the colon. With the subsequent descent these adhesions are drawn out into a thin membrane represented by the peri-colonic membrane of the adult." The parallelism of the blood vessels representing the axis of descent.

Another opinion as to the congenital origin is that of Gray and Anderson, and that is that Jackson's membrane is simply the right margin of the great omentum which ordinarily reaches as far as the hepatic flexure. At the hepatic flexure during development the omentum may become adherent to the dorsal parietal peritoneum, opposite the flexure and along the outer side of the ascending colon.

During the descent of the cecum this part of the omentum becomes drawn out, usually losing its fat, and the vessels assume a linear parallel arrangement.

The third idea is that of the inflammatory origin. That these membranes are the result primarily of a long continued form of mild infection. Corner has called attention to the fact biologically the cecum is the second resting place for the alimentary contents. That it is here that

the fluidity is diminished and where bacterial life is at its utmost. In addition the reaction of the ileal contents have changed from an alkaline to acid.

We may, therefore, summarize certain facts about the cecum. That we have first, normal or exaggerated stasis; second, maximum bacterial life; third, acidity; fourth, fermentation and putrescent changes. We know that bacteria can traverse an irritated or a congested intestinal wall without there being any distinct lesion to the intestinal wall. Heyde, by extensive cultural experiments, has demonstrated that the bacteria on the margin of a beginning peritoneal exudate are chiefly anaerobes and that the colon bacilli are secondary invaders. The cultural difficulties being so great may explain the dearth of bacterial information concerning the pathology of these membranes.

Another interesting coincidence is the fact that bacilluria is more common in the female, and as Bishop has shown, on a one-sided bacilluria, there is an overwhelming majority on the right side. In connection with this clinical finding we knew that Franke has demonstrated a definite lymphatic system between the cecum, ascending colon and the right kidney. In addition it is a matter of common clinical knowledge that peri-colonic membranes are in the vast majority of cases in women.

It would seem, therefore, from a consideration of these factors, that there is a distinct pathology sequence between involvement of the kidney from cecal infections and the development of peri-colonic membranes.

There is, however, one very strong argument against this idea and that is that the lymphatics from the bowel run inward with the meso-colic vessels and there is usually no evidence of thickening along the lymphatics accompanying the meso-colic vessels. There is, however, no reason why an inflammation should not manifest itself externally by Jackson's membrane and internally by renal infection.

Whatever may be our opinion in regard to the etiology of these adhesions, there can be no question that they have a distinct pathological significance and manifest themselves by a demonstrable symptomatology.

In considering the clinical signs of these cases as a group, we are impressed with the surprising uniformity of symptoms. So uniform are these symptoms as

to render the condition a clinical entity.

Naturally, however, there is some variation in the symptoms which is dependent upon, (1) the extent of development of the membrane; (2) the degree of fecal stasis in the cecum; (3) the fermentative changes and secondary distention with muscular atony; (4) the actual amount of toxic absorption manifesting itself in general or remote symptoms, and when expressed in the superlative degree giving a well-defined symptomatology of splanchnic neurasthenia.

The first and most prominent symptom is pain, which may vary from a dull ache to attacks of severe cramp-like pains and interrupted by periods of freedom. This pain is diffusely localized over the right side and may extend from the spine posteriorly to the mid line anteriorly and latterly from the costal arch to Poupart's ligament, and is a pain much worse on excessive exercise. The noteworthy feature of its distribution is the inability of the patient to focalize the pain. The pain to a great extent resembles that of chronic appendicitis. The pain is always relieved by free catharsis, but this is only temporary, and the pain readily recurs.

In this condition there is no associated fever, acceleration of the pulse, and there is a distinct absence of abdominal rigidity and muscle spasm while the abdomen itself may show a more or less diffuse distention. There is a history of well-marked constipation. Occasionally periods of constipation intermit with a diarrhea of short duration in which some mucus is passed.

Over the region of the cecum gurgling is a constant finding a "splash" may sometimes be obtained. Some of these cases show reflex gastric disturbances of such intensity that the gastric symptoms may dominate the picture. The gastric symptoms vary from a sense of fullness or oppression, with eructations of gas to the pyrosis, burning and pain of a hyperchlorhydria or ulcer. In the later stages there is almost always a depressed secretory and motor function. Systemically there is usually a progressive loss of weight and a general muscular atony.

X-ray examination of the large bowel after a bismuth meal is invaluable, especially with a supplementary enema of bismuth as the emulsion is carried around to the cecum in a few minutes by a retrograde peristalsis, so when the colon and cecum are prolapsed, or constricted, or where there is a definite angulation, the

X-ray picture will offer a satisfactory interpretation.

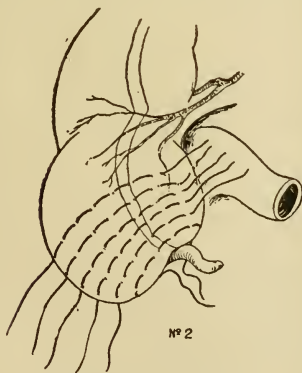
The differential diagnosis must eliminate chronic appendicitis, cholecystitis, gastric and duodenal ulcer, prolapsed kidney, ureterial stone and intrinsic diseases of the intestines. A careful consideration of the history and evolution of symptoms will usually render the differential diagnosis not difficult.

Summarizing all that has been said about typhlitis, we find that any of these conditions that tend to aid, or assist fecal stasis here in this anatomical gap, of the cecum, the bagged or sagged pouch, thereby producing an accumulation of a gelatinous mass, septic, fermentative or what not bringing on muscular atony of the pouch, thereby unable to empty itself properly then we have the whole condition at hand.

The treatment of this condition is of two folds, medicinal and surgical, and of the two the surgical has proven itself worthy of consideration here.

The operation here is the one devised by myself, Typhlopexy, of which I have gotten excellent results.

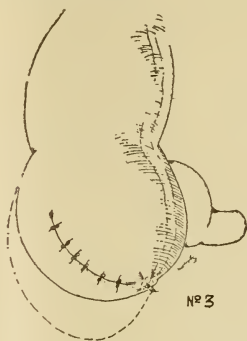
The operation consists of taking the cecum, ileum, colon and the appendix, removing the appendix, and then carefully examining the cecum, ileum and colon, freeing them from constriction, or adhesion, and then taking the cecum up in my hand and passing five, six or eight sutures of No. 8 surgical silk, as shown in Fig. 2, through the serous and muscular



DILATED CECUM
WITH SUTURES

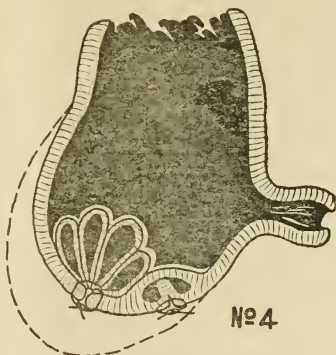
coats, starting the sutures well above the anterior longitudinal band of the cecum, and passing well back toward the posterior longitudinal hand. Also bringing the

purse string of the inversion of the stump of the appendix well out to the outer side, thereby inverting as much as possible the lower border of the pouch, as shown in Figs. 2 and 3.



SUTURES TIED

The results you can readily see in a cross section as shown in Fig. 4.



CROSS SECTION OF CECUM
AFTER OPERATION

This does away with this stagnant pouch and gives tone to the muscular fibers of the walls of the pouch, thereby making it active and able to empty itself from normal physiological movements of the cecum.

Case No. 1—Mr. G., age 38, family history negative. He had a chronic pain in his right iliac-fossa, had his appendix removed eight years ago. He says that he still has the same pain, that he had previous to his appendectomy.

X-ray examination after a bismuth meal combined with a supplementary en-

ema of bismuth demonstrated quite a large sagged or bagged cecum, and a considerable stasis of the current.

I operated on him and found the condition to be of the cecum altogether with no constriction, or adhesions, and so I did my typhloperoxy. This was March, 1916. No pain has recurred yet.

Case No. 2—Mrs. E., age 34, family history negative. Diagnosis, tumor of the left fallopian tube, she also complained of considerable pain in her right iliac-fossa, resembling chronic appendicitis. Operated, removed a 2-pound cystic tumor of the left F-tube, and found the right tube and ovary normal, so looked for the appendix and found only a button shaped condition of the cecum, but just the same condition of the cecum existed as did in Case No. 1, so I did my typhloperoxy on this cecum. This was done in April, 1917, no pain in right iliac-fossa since.

Nase No. 3—Mr. B., age 40, family history negative. Diagnosis, appendicitis, operated in November, 1917. This case had a typical Lane's kink with the cecum bound down to the posterior abdominal wall by a thin band. With a large dilated external sacculi, which was quite noticeable. The appendix seemed to be a normal one. Removed the appendix, broke up the kink and adhesions, and did my typhloperoxy on this dilated sacculi of the cecum. No pain since.

Case No. 4—I have here cases of three boys which I have just recently operated on 5, 6 and 8 years old respectively, all of which had a well defined Jackson's membrane. I did the appendectomies here with the freeing of the parts.

The appendix here was diseased in each case.

In malarial conditions a diuretic is not indicated as often as the symptoms suggest, as one always has to contend with a torpid liver that is throwing a part of its work on the kidneys, meaning double duty for the latter.

In such cases the rational treatment is to use some agent which will stimulate all the excretory organs, dividing the duty of each and causing thorough elimination.

Tongaline either alone or in combination with other agents, as indicated, will invariably expel the malarial and other poisons promptly and thoroughly.

BLOOD TRANSFUSION.

By L. A. Crowell, M. D., F. A. C. S., Lincoln, N. C.

A recent visit to the Mayo Clinic aroused my interest in blood transfusion, and while there I made some investigations on the subject, not, however, for the purpose of writing a paper, but with the idea of using the method in my own work. At the outset I want to say that I have no apologies to make for going into details in my description of the method of blood grouping and the technic for preparing same for transfusion, as these are so important in the method which I am about to describe.

Attempts at blood transfusion date back to the 15th century. The first attempt was made in 1492 in an effort to save the life of Pope Innocent, the 8th, who was dying of old age, but very little benefit was derived from the operation. Richard Lower of Oxford University, an able physiologist, was the first to successfully perform direct transfusion of blood. This he did in February, 1665, by means of segments of goose quills interposed between the several ends of the vessels. Following this, Denys, a French physician, tried the experiment on an insane man, injecting eight ounces of calf's blood into his veins. He slept all night. The treatment was repeated the next day, and the man awoke a sane man. Tidings of this operation spread over all Europe, and every one felt that it was a success and hoped that by transfusing the blood of some mild animal as the calf or sheep, the blood of a man could be so transformed as to give him the characteristics of the animal chosen. These hopes, however, were soon dispelled, as the patient went mad again. Denys transfused again, but the man died under the operation.

The first real advance in our knowledge of blood transfusion was made by Leacock in 1817, and Blundell in 1825. They drew attention to the results, due to the hemolysis of the blood, when the blood was obtained from and injected into animals of the same species. The direct method was used very extensively during the next few years, but later given up as impractical, because it was too complicated for actual practice, was too often followed by sepsis and thrombosis. In 1886 Cotterill of Edinburgh, in hopes of avoiding thrombosis, introduced the injection of a mixture of blood and saline,

*Read before the N. C. Medical Society at Pinehurst.

which was the first step toward the Citrate method now in vogue. So far as I can learn, Crile was the next to revive the direct transfusion of blood, and by his ingenuity and ability, has done some wonderful work along this line. At the same time, the direct method of transfusion has never become universally popular, due, in part, no doubt, to the fact that the average surgeon does not possess the technical skill to perform the operation properly. A device, in order to be ideal, should be generally available; it should be simple and easy of execution; hence the advantages of the indirect over the direct method. Other advantages of the indirect over the direct are: the sureness of transmission, and the indication of the amount transmitted. In my opinion, the reason why transfusion has never been universally used is because of the complicated apparatus for its performance heretofore in use. And the above applies especially to the direct method. The equipment for the Citrate Method consists only of a 2 per cent. Sodium Citrate solution, a 500 c. c. graduate, a glass rod, and an ordinary saline infusion outfit. Bertram Bernheim, of Baltimore, a blood vascular surgeon of national reputation, who has devised many instruments for this special work, read a paper on this subject at the June, 1917, meeting of the American Medical Association, in which he endorsed the Citrate Method of blood transfusion. He came out with the emphatic statement that Lewisohn had revolutionized blood transfusion and that all instruments on the market at the present time including his own, would from now on be relegated to the past.

The principal indications for transfusion are severe anemia, following hemorrhage, post-operative hemorrhage in patients who are jaundiced, hemorrhage from cord in new-born, poisoning from illuminating gas, in weak and anemic patients before operations, and in hemophilia. The method of transfusion in new-born babies is by way of longitudinal sinus, as recommended by Helmholz, the citrated blood being injected directly into the longitudinal sinus, by means of a needle. According to Lewisohn a 0.2 per cent. solution of sodium citrate will prevent the blood from coagulating from one to two days, but when this citrated blood is introduced, the coagulation time of the patient's blood is always shortened, which shows that some product has been released by the citrate that did not exist before the transfusion. No transfusion should be done until a preliminary test of

the patient's and the donor's blood had been made to ascertain if they belong to the same group. Moss of the Johns Hopkins Hospital, was the first to show that practically all people may be divided into four classes, as regards their blood, and that only those should serve as donors whose blood is in the same class as that of the recipient. Children's blood, as a rule, does not become grouped until the end of the second year and once group, it rarely changes during the life-time of the person. Since children's blood does not become grouped until the end of the second year, we need not be so particular in selecting the donor, and can with little risk use the father's or mother's blood. Moss's work on Isoagglutinins and Isohemolysins, written in 1910, marks the beginning of the scientific transferring of blood to patients suffering from various conditions. The work of Moss was so accurate and complete that no one has been able to add anything essential. The only addition that has been made is that the technic of blood grouping has been very much simplified, so that it can be done in a few minutes and only a small quantity of blood is necessary. The test is made as follows: Four small test tubes are used—two of these are the donor respectively; and the other two are filled to about the same point with a 2 per cent solution of Sodium Citrate. Into one of the latter is put a few drops of the donor's blood, and into the other's, a few drops of the patient's blood. After the clot has been thrown down in the first two tubes, you are ready to make the test. Take a platinum loop full of the donor's serum and place on a slide, and add to it a loop full of the patient's corpuscles, which are suspended in a 2 per cent. solution of Sodium Citrate. Repeat the same process with the patient's serum, examine with low power under a microscope. If the corpuscles are agglutinated by the serum, these bloods do not belong to the same class and another donor should be selected. In an emergency, a donor's blood, whose serum agglutinates the patient's corpuscles might be used and no harm done, but under no circumstances should a donor be used whose corpuscles are agglutinated by the patient's serum. If agglutinated cells are transferred, and no accident occurs, they are taken up by the phagocytes, and are therefore expected to do little permanent good. Symptoms following the transfusion of agglutinated blood are: flushing of face, urticaria, slow pulse, becoming rapid and irregular, dyspnea, followed by death, if the trans-

fusion is not immediately discontinued. After testing the blood for syphilis and agglutination, if time will permit, proceed as follows to collect blood from donor: cleanse arm, make sufficient pressure on arm above elbow to make veins stand out prominently, which is best done by using a blood pressure apparatus, pumping until the needle points to from 50 to 80. This amount of pressure insures an even flow of blood, which is important, for otherwise, it is likely to clot in needle, and cause much trouble. Collect the blood in a graduated glass beaker, which has been previously filled up to the 30 c. c. mark with a sterile 2 per cent. solution of Sodium Citrate. Add 220 c. c. blood (stirring continuously with a glass rod). Again add 30 c. c. solution of Sodium Citrate (2 per cent.) and allow 220 c. c. blood to run in, making a total of 500 c. c. of a 0.2 of 1 per cent. solution of Sodium Citrate in the blood. Have the patient prepared as for 606, and give just as you would 606, using the same apparatus. It is very important that a large size needle be used, when collecting the blood from the donor. The importance of this is obvious. Citrate and blood mix only after the blood has left the needle. The use of a cannulae with a narrow lumen will not permit a free flow, and the blood may clot before it mixes with the citrate solution. Recently, while doing a transfusion away from home, the needles carried with me were too small, the blood clotted in them, and as a result, I had to discontinue the operation. An ordinary needle placed transversely in the skin over vein steadies it, thereby facilitating the introduction of the needle for drawing blood. I see no reason why this life-saving procedure should not be universally used, since the complicated apparatus for its performance has been practically eliminated.

The Most Easily Assimilated Fat.

Of all the fats, cod liver oil is the most easily assimilated, and herein lies its great food value. Now, if the oil's nutritious properties can be enhanced by processes that make it more easily assimilated, and other valuable properties added to it, as is done in Cord. Ext. Ol. Morrhuae Comp. (Hagee), the ideal builder is at hand.

In the manufacture of this product every law relating to the nutritious properties of cod liver oil is observed. It is offered to the profession in the most efficient of reconstructives.

THE IMPORTANCE OF MAKING DIAGNOSIS.*

By W. Frank Ashmore, M. D., Anderson, S. C.

Mr. President and Gentlemen:

In presenting this paper to you today it is not from selfish motives; it is because, from a personal standpoint I feel that it is time the physicians of the South should begin to realize the importance of such a valuable aid in making a diagnosis. The field for X-Ray diagnosis is unlimited, and I believe is one of the most valuable, if not the most valuable aids at our command. My experience extends back for a number of years in this work, and I am still in my infancy. It is like all other branches of the Medical Science—there are new theories and discoveries every day that this branch affords; and I believe it behooves all of us to rely more on this valuable aid in diagnosis. I will first relate some experiences in my work on the chest:

Radiography of the lungs constitutes an enormous advance in our knowledge, not less than that afforded by the discovery of auscultation and percussion. It enables us to observe the smallest centers of disease and in the processes in the central portion of the lungs which were formerly beyond our ken, and it enhances the value of the older methods by giving us a means of controlling them. The Roentgen picture has but lately come to be relied on, and it will be long before there is a general agreement on its meaning in some cases, but that forms no objection to its method.

The best results in the diagnostic use of radiograms will be obtained by the observer who is not only a good radiographer, but also a good clinician—a man who is able correctly to estimate the pathological condition as a whole. No physician who has experienced the sovereign value of this means of diagnosis will be willing to do without it, and this remark applies with special force to the lung specialist.

Radiography of the Healthy Lungs.

Owing to their air content, the lungs are specially accessible to radiographic examination.

Since air is extraordinarily transparent to X-Rays those parts of the lungs, whether healthy or diseased, which contain less air show as dark shadows on the screen. We are, in fact, using the X-Ray

*Read before the Anderson County Medical Society.

in the same way as percussion—viz.: to determine the air content of the lungs, and then their size and other properties. In this, however, it is clear that radiographic examination far outstrips percussion, for it not only establishes the fact that a change of the air content has occurred, but shows the form of the relatively airless portion and more particularly by stereoscopy, its position. Further, X-Ray exhibits the deep central regions of the lungs to which percussion cannot reach.

There is quite a lot more I could say on the value of radiography of the lungs, but as there are other subjects I wish to mention I will not go further.

The X-Ray Examination of the Liver and Gall Bladder.

Until recently there has been little recognition given to the possibilities of studying the biliary tract, particularly the gall bladder, by means of the X-Ray.

As all of us know, the pathological gall bladder, with or without stones, as a disturbing factor in the abdomen, has received much attention from surgeons, gastroenterologists, and from surgeons who think they know more than the Roentgenologist about the interpretation of the X-Ray plate.

Nevertheless, the Roentgenologist has given more light on the subject in recent years than any other one specialty, while yet, our diagnosis is very much questioned by some of the most learned surgeons. But, I am delighted to learn that even THEY are beginning to realize the great accuracy and value of the X-Ray.

It has only been of recent years (two years) that the Roentgenologist has perfected a technique whereby we can point out a pathological gall bladder to the surgeon, while such is not the case as to gall stones, but if we can show the surgeon that the patient has a pathological gall bladder even if no stones are apparent, I feel that we are doing a very great work. It is a proven fact that a normal gall bladder will not often throw a shadow on the X-Ray plate, therefore, if we find the shadow we know that there is some trouble, even if stone shadows do not appear.

You will have practically the same clinical symptoms as if stones were present. I have recently had three cases referred to me for X-Ray examination of the gall bladder, and my diagnosis was confirmed in all three cases by surgical operation. One of the cases is a most interesting one for the simple fact he has

a complication of tubercular lymphangitis.

While my work on this particular subject has been somewhat limited, I am fully convinced that I can heartily confirm the findings of such men as Dr. Geo. M. Niles, of Atlanta, Ga., who is doing a great work along this line. And then there are Cole and Pfaler, who are pioneers that have blazed the way for the surgeon and gastroenterologist, and in the same connection I wish to mention A. W. George and A. D. Leonard. These men are showing beyond question that with the proper technique the diseased gall bladder, can in most every instance be demonstrated on the plate.

The outline of the upper border of the liver is easily determined, both by anteropostero and by lateral study. (Dr. James T. Case, of Battle Creek, Mich., demonstrated this fact in a paper read before the A. M. A., 1913).

The inferior surface, as he says, is easily delineated in its lower half. We do this by inflating the colon with air, and still better detail is given by inflating the stomach.

In Roentgenograms of the bismuth filled stomach and colon the inferior border of the liver is distinctly outlined. If there should be abnormal fissures, any enlargement, we can readily point it out.

In regard to the examination of the gall bladder there has been quite an improvement in the technique. I would classify the evidence of the gall bladder disease as follows:

1st. Cases in which gall stones are distinctly visible.

2d. Cases in which gall stones are not seen, but other X-Ray evidences point to gall bladder disease. It is well known that the principal constituent of gall stones is cholestrin, but as has been pointed out by Holland, who quoted the work of Dr. C. T. Williams, it is rare to find a stone composed of pure cholestrin. The cholestrin stones nearly always contain some pigment, generally a calcium salt, and while "nearly all gall stones contain a good deal of cholestrin, calcium salt or bile pigment may be said to be almost invariably present."

Of course a negative opinion as to the presence of gall stones based on X-Ray examination does not rule them out, but they are demonstrated with such frequency that it is distinctly worth while to make search for them in every case in which they are suspected. The Radiologists should be on the lookout for cal-

careous deposits in the right upper quadrant when examining for gall stones. These deposits are found in the costal cartilages, also renal calculi, in calcareous deposits in a tubercular kidney. We would clear this up by making stereoscopic radiograms and pyleographs.

I will pass on to the X-Ray diagnosis of tuberculosis in children. The main symptoms are wasting, headache, loss of appetite and a general feeling of tiredness. There may be frequent fainting attacks. A good many complain of cough which is usually worse at night. The rise of temperature is small, commonly to 99 deg. F., and never above 100 deg. F.

X-Ray examination will show definite shadows localized in the regions of the roots of the lungs. These shadows will vary in density and in shape. The right side will most commonly show more shadows than the left. In some cases we may have merely an indefinite condition. When I first began to study the shadows it was difficult to believe that they were pathological, but you will find that most of them will react positively to Von Pirquet test. It seems certain that the X-Ray appearances above described are produced by disease in the region of the bronchial glands, and it is reasonable to suppose that the shadows are due to tubercular lesions. This work is being extensively carried on by Reade & Galey. Dr. A. C. Jordan maintains that pulmonary tuberculosis commences at the roots of the lungs and spreads to the apices along the bronchi. He supports his conclusion by comparing results of examination of the lungs after death, with X-Ray shadows produced by those lungs.

We will now pass on to the X-Ray examination of the urinary tract. It wish that the time would permit me to dwell on this subject much longer for there is a great deal that could be said on this particular subject that I feel would be of interest and advantage to all. In making X-Ray examination of the kidney ureter and bladder, as in all other work pertaining to the X-Ray examination, you cannot be too careful in technique; as a rule, when a patient is brought for X-Ray examination the physician in charge wants a differential diagnosis, that is, he is undecided whether or not the patient has appendicitis—Gall-bladder, involvement, floating kidney, tubercular kidney or stone in kidney or ureter.

Therefore, the responsibility is thrust upon the radiologist, and he realizes that the surgeon is to be guided by his find-

ings and his ability to read the plate correctly. It behooves him to be extremely careful in every detail of his work. His differential diagnosis can be cleared up in more than 95 per cent. of the cases.

I will mention here a case that came to me about one year ago who was suffering pain in the right side. During my conversation with her I suggested that her symptoms indicated appendicitis. She informed me that her appendix had been removed three years past for the relief of this same pain, and that she informed the doctor after she came out from the anesthetic that she had her same pain, and they would not believe her. (This operation was not done in the fourth district either, but was done in this State). I put her on the table and found she was very tender in the region of the right kidney, and on palpating kidney she complained of great pain which continued until relieved by morphine. I put the patient on vegetable lax for twenty-four hours to get the alimentary tract thoroughly cleansed and then made X-Ray of kidney and found a large stone in the pelvis.

Now, the point is this, if an X-Ray examination had been made of this patient before the appendix operation, which would have been removed—the stone or the appendix? From the history the patient gave me, I don't believe the appendix was involved, while I realize that such a thing is very probable. I mention this case in order to try to bring out the great diagnostic aid the X-Ray affords. In the examination of the urinary tract for stone the error should not exceed 1 per cent. with good technique and the surgeon is always advised to combine his clinical experience with that provided by the radiogram, and to remember that the latter is usually **more trustworthy** of the two.

I am sorry to leave this subject here, but I will pass on. I will now take up Radiography in the diagnosis of Mastoid disease. This can usually be made plain by the proper use of technique and the X-Ray. A surgeon who will take the time and trouble to study X-Ray plates of his mastoid cases will be well rewarded.

This is one of the later developments of X-Ray in surgery and it requires the most careful technique to produce skiagraphs of value. Chronic and acute mastoid can be easily skiagraphed, as a fracture of any of the long bones in the body. In fact, with less difficulty than some of them. Having secured radiographs of

both right and left mastoids one should place them side by side in viewing box and note any difference the radiogram should show.

1st. The articulation of the lower jaw and the posterior border of the ascending ramus of the jaw.

2d. The auditory canal placed behind the articulation of the lower jaw and separated from it by about one-fourth of an inch.

3d. The air cells which form a reticulum extending from the articulation of the jaw backward. The cells usually appear larger in the lower part and smaller above. Sometimes they extend forward above the articulation of the jaw into the base of the zygoma. It should be remembered that the cells extend well behind the limit of the mastoid process.

4th. The petrous bone surrounding the auditory canal appearing as dense area superimposed on the mastoid cell.

5th. The outline of the lateral sinus should be faintly indicated running through the posterior part of the cells.

6th. The foramen magnum appearing as an elliptical opening with part of the first vertebra crossing it.

7th. The outline of the pinus of the ear.

Acute mastoiditis shows the following departures from the above description:

1st. The air cells are obscured, but can be faintly seen. 2d. The outline of the lateral sinus may be a little more defined than normally. 3d. The petrous bone is dense. 4th. The whole mastoid region is denser. When one gets an absolutely normal mastoid on one side and the other side presents the appearance just described, together with certain clinical signs and symptoms, one is justified in diagnosing acute mastoiditis.

Chronic mastoiditis is very typical in a skiagraph. It presents the following departures from normal:

(1) The air cells are completely absent.

(2) The petrous bone stands out as a very dense, roughly triangular area, with its apex pointing upward and backward.

(3) The posterior border of the petrous bone forms part of a sharp crescent-shaped line. This crescent-shaped line corresponds with the upper and anterior border of the lateral sinus.

(4) The lateral sinus is frequently very well shown. In order to obtain the above results as described, it is necessary to follow out the technique of Dr.

A. Howard Price. I have adopted his technique and find that it is very satisfactory. The patient is placed on a firm couch or table, the head is supported on an inclined plane, making an angle of 25 degrees with the plane of the table. The head is rotated 90 degrees so that the patient looks directly to his side. With the source of X-Rays placed vertically above the head the perpendicular ray is made to fall on a point 2 inches above the highest point of the pinna. The center or target of focus tube should be 12 inches away from the scalp. The head is strapped down with a bandage to prevent movement.

We will now pass on to the value of X-Ray in locating fractures, foreign bodies, etc.

At the present time in this part of the country the X-Ray is used for these conditions more than any other for the simple reason the physician and surgeon have not yet been able to realize the value of this means in the deeper structure of the anatomy, and then again they have not had competent men to handle this phase of the case for them. In fractures and dislocation the X-Ray should be the first aid, for without it is largely guess work.

However, it should be used only by a man who is capable of reading his plates correctly and one who knows how to use the proper technique and the different angles in order to show the broken bones in as near their true pathological condition as possible. There should always be two exposures made at widely different angles or a stereo-radiogram. I like the former best for you will get a truer condition of the injury. The stereo-radiogram is better suited for foreign bodies or for chest work.

In conclusion, I wish to show you the prints of a case of aneurism of the descending portion of the aorta, causing a dilatation of the oesophagus by pressure at the cardiac end. This man is 57 years old, family history good, has never used tobacco or alcoholic beverages, blood pressure 180, kidneys normal, with sclerotic arteries.

When he first came to me I made a diagnosis of stricture of the oesophagus and gave him a bismuth meal and made an X-Ray examination, and found that his oesophagial trouble is only secondary, as you will notice he has a very large aneurism.

The other case I now show you is a stricture of the oesophagus in a child 4

and a half years, due to swallowing concentrated lye.

Finally, I feel that it is much better for the surgeon and patient, both, to know or at least, be reasonably sure before going under an anesthetic, just what is going to be done.

For honestly I believe that more people die from the effect of the anesthetic than from the operation. Therefore determining first what for and why are we going to operate will no doubt save the lives of many subjects and add glory and stars to the surgeon's crown. The remedy is co-operation and team work with the Roentgenologist. It will help all.

119½ N. Main St.

HIGH BLOOD PRESSURE—ITS CAUSES AND TREATMENT.

By Wilbur Blackman, M. D., Robertson-Blackman Sanitarium, Atlanta, Ga.

High blood pressure, arterial hypertension, and hypertonia vasorum are synonymous terms with only slight differences in shade of meaning. There is another term that is not synonymous with these, yet bears an intimate and somewhat confused relation to them. I refer to arterio-sclerosis. In this paper I shall attempt to set forth the relations between arterial hypertension and arterio-sclerosis and to discuss their intricate causes, manifestations and management. I wish particularly to stress the functional nature of a great class of arterial hypertension cases as differentiated from true arterio-sclerosis—that condition in which occurs degenerative structural hardening of the artery walls.

Now, as to the relative incidence of high blood pressure and arterio-sclerosis, we may safely say, first, that high blood pressure may be due to toxic or nervous influences and may exist for some time without the presence of arterio-sclerotic changes. Second, most cases of high blood pressure of this nature will in time become cases of arterio-sclerosis as a result of the continually over-distended arterial walls becoming inelastic and fibrous from mechanical causes. Third, arterio-sclerosis may be intrinsic or essential by reason of gout, syphilis, or the progressive changes of senility under nature's plan of sclerosing us off the earth. Fourth, we may see advanced arterio-sclerosis without high blood pressure, but this probably only occurs when the heart compensation for inelastic arteries is broken.

The arterial system is a series of passages in which the blood is contained and held under pressure by a muscular envelope. From this reservoir, the blood escapes for use through the arterioles and capillaries, and the office of the heart is to pump into this reservoir sufficient blood to maintain the pressure depleted by the blood used by the capillaries. This naturally creates a flow of blood from the heart toward the periphery, but the immediate use of the heart is to maintain this arterial pressure. This is well shown by the fact that the actual amount of blood propelled by the heart is so much greater during exercises when there is a demand for fresh blood, the peripheral vessels being open, and there being a drain on the arterial system.

A physiological increase of blood pressure is caused whenever there is nervous or muscular exertion.

Prolonged nervous strain, such as that met with in an exciting business or social career, or prolonged dissipation, keeps up a tendency to high arterial tension that is particularly apt to lead to arterial degeneration. The increased blood tension of muscular-activity is less prone to produce damage to artery walls, because it is accompanied by natural dilatation of arterial circulation, improved nutrition, and the relief afforded by perspiration.

Alongside of nervous strain, as just mentioned, as cause for hypertension, comes intestinal toxemia which causes, by irritation to the intima of the arterioles and to the vaso-motor center in the brain, a toxic angio-spasm which retards blood flow, therefore raises blood pressure.

In Bright's disease there is possibly also some substance circulating in the blood that irritates the muscular coats of the vessels and causes narrowing of their bore. This, with the physiological attempt of the heart to carry on the circulation brings about high tension.

As another cause of high blood pressure we may name senile, syphilitic or gouty arterial hardening which interferes with the easy escape of blood and requires that the heart shall pump up the blood pressure to provide adequate supply to the tissues beyond.

Further, congestion of an important viscus, particularly the liver or kidneys, may be a cause, perhaps not so much on account of localized resistance to blood flow which could easily be circumvented, as to a compensatory effort on the part of Nature to increase the flow of blood

through such organ and thus increase its functional activity.

As emphasizing the newly acknowledged functional causes of high blood pressure, it may be mentioned that pain causes increased blood tension in the arteries, especially when the splanchnic nerves are involved and the splanchnic vessels are constricted.

Bishop outlines what he calls a "composite picture" of the prevalent hypertension case of the kind in which we are most interested therapeutically. A man enters mature life healthy in body and mind. He is a worker, and spurred on by success, little by little, attains a position of importance. New burdens are laid upon him. He works unceasingly without those relaxations that attract men of lighter turn of mind. Through the overflowing of mind strain, blood vessel tonicity becomes exaggerated and the blood no longer circulates with ease. The heart works harder and hypertrophies to carry on its work. High blood pressure results. This in turn results in structural damage to the blood vessels of the brain, kidneys and elsewhere. Some day, under unusual worry or strain, there develops a lesion in an already damaged blood vessel of the brain, a blood clot forms near the speech center on the left side and another prominent man has fallen victim to an attack of apoplexy. Or one of the arteries that supply the heart substance is stopped, and the man drops dead in his tracks. Or in another case, blood vessel changes in the kidneys induce degeneration with the appearance of casts. Perhaps the abdominal arteries show the first indications by terrific digestive disturbance with gaseous distention of the stomach and marked irregularity of the heart.

I should like to place alongside this picture that of a neighboring man who is more phlegmatic mentally and nervously, but who congests his viscera by habitual alimentary over-indulgence. Also another man who exceeds his capacity for the prompt and vigorous digestion of proteids, be that capacity great or small, and thus converts his colon into a fulminating tube for toxins, which, when absorbed, act directly as irritants to the arterial walls, causing their contraction and increased blood tension—these toxins also irritate the vaso-motor center in the medulla with like vaso-constrictive effect; and, further, so harass the general nervous system and brain as to exaggerate blood vessel tonicity through the over-

flow of mind strain, as described by Dr. Bishop. If such conditions of blood tension are not remedied early, mechanical pulse violence to blood vessel walls, and toxic irritation to the same must certainly rob the delicate muscular coats of their elasticity and induce fibrous or degenerative changes therein—an actual arteriosclerosis. Blood pressure will progressively rise and the heart hypertrophy until something gives way—a vessel wall, a heart valve, or the kidney tubules most probably.

In individuals past middle life, hypertension is frequently associated with great and untiring energy, and it is interesting to note how commonly cases of sudden death occur where the patient has remarked shortly before that he never felt better in his life.

The effect of hypertension on the heart is to force it to do an increased amount of work in order to maintain the same intensity of capillary circulation, while for the arteries hypertension diminishes their distensibility, and the sharp rise in pressure at every systole introduces the danger of rupture or aneurism.

It is evident that the early detection of these very numerous cases is most important. To this end, the sphygmomanometer should be in the hands of every practitioner as an aid in diagnosis and a gauge of progress. Busy practitioners may not possess the time, technique, or equipment for delicate microscopic observations, gastric analyses and such laboratory methods, but they need not harbor such regrets relative to pressure tests.

Returning to the phenomena and accompaniments of the complex condition we are discussing, in practically every case above 180, disorder of the cerebral circulations is shown by a subjunctive feeling of nervousness, headache, insomnia, attacks of dizziness or even threatened aphasia and hemiplegia. Also casts will be found in the urine whether there is albumin or not. Jacobi says, "A pressure approaching 200 practically diagnoses chronic contracted kidneys, interstitial nephritis." If, owing to blood vessel changes in the heart musculature, myocarditis supervenes, dyspnoea, cough, and swelling of the feet, are the early symptoms, and the patient comes under observation with an irregular heart and a mitral murmur.

Treatment.

In following out any system of treatment for hypertension, a routine of regu-

lation is imperative, not alone of diet, but of habits and eating, drinking, sleeping, working, playing and even thinking. Our measures should be physiological. Faught says that in some of his cases he has been able to control the conditions symptomatically by hygienic measures alone, coupled with regular and mild exercise, such as walking, with return to comparative health and freedom from the head pains, gastric disturbances, nervousness, etc., which usually accompany advanced cases of arterio-sclerosis.

As in everything else, no fixed course can be pursued, but each case must be treated with reference to its individual manifestations in the way of causes, and, of what we might term, its complications. In heart lesions with dyspnoea, rest in bed is imperative. In kidney lesions, with evidence of uremia, skin and bowel elimination are of prime importance. In autotoxemia, evidenced by indican in the urine, a non-proteid diet, better still an antitoxic buttermilk ration, colon irrigations, and skin elimination are indicated, together with treatment for feeble proteid digestion and peristalsis. In the case of the over-wrought man of affairs, with overflow of mind strain, already quoted from Dr. Bishop, it would be apparent that change of scene, recreation, and diverting companionship, must be essential accompaniments of treatment. In the instance of the patient with a confirmed and essential arterial hardening, with high pressure, he must be advised and catechised and variously enjoined on the subject of moderation in all things.

At the sanitarium, in addition to dietetic and hygienic measures and rest, we utilize hydrotherapy in our hypertension cases. The electric light bath is the premier bath measure for relaxation and elimination in these cases; for heart lesions, the Nauheim bath; and for kidney insufficiency, the sweating packs are used; in auto-toxemia, abdominal fomentations and colon irrigations are excellent; for high nervous tension, the prolonged neutral bath or the wet sheet pack is effective; for a laboring heart, intermittent ice applications to the praecordium are used.

In conclusion, and without drawing any large conclusions, you have noticed that a large proportion of high blood pressure cases will admit of a diagnosis of Bright's disease. I have mentioned how high blood pressure damages kidney structure, and how nephritis causes high blood pressure. May we not ac-

count for most cases of Bright's disease as being due to continued nervous and toxic hypertension? Kellogg has always maintained that Bright's disease is a disease of meat eaters.

LOUISIANA LEGISLATURE PASSES A MEDICAL PRACTICE ACT TO ALLOW APPLICANTS OF "FAIR EDUCATION" TO PRACTICE MEDICINE.

By George H. Tichenor, Jr., A. B., Tulane, M. D., Tulane; Associate Editor Western Medical Times; Member of the American Editors' Association.

The Louisiana Senate has just passed House Bill (63) Sixty-three allowing applicants of "fair education" to be examined. What "fair education" is, probably only a political board of unfortunately one of the most illiterate States in the Union can define—if the weather is favorable. We all know something of the requirements of a liberal education, but "fair education" has a political status in a bill that most studiously avoids not only specifically stating in Carnegie units preliminary educational requirements, but also does not state the number of years and hours of study that may be required for the holder of an awe inspiring Louisiana Medical diploma. Perhaps under this broad latitude medical colleges can flourish without disagreeable medical restrictions, which one would infer is contemplated as the bill specifies applicants shall possess a diploma from a college in "good standing" (I presume with Examining Board).

In order that the profession may be absolutely correctly informed concerning this bill lowering medical requirements, I have obtained the legal opinion of one of the best informed attorneys in the State on this subject and medical legal jurisprudence. The following is his opinion.

House Bill Sixty Three by Mr. Earhart passed by the Louisiana Legislature:

1. Does not effect the vested rights of any physicians licensed before said act becomes a law. Physicians in this class will not have to pay \$2.00 every year for the Board to look at their certificate. All other practitioners and midwives will be compelled to pay \$2.00 annually that may be licensed in the future.

2. As to preliminary educational requirements "fair education" whatever that may be is not defined therefore may mean the rule of three, high school education, college education or any interpretation the Board may choose to suit the

applicant and occasion. The same interpretation is applicable to the words "college in good standing." One could be a graduate of a medical school of one year's course and be a graduate of a college in "good standing," provided the college was legally chartered as this bill does not define the meaning of the term. This allows for the creation of what the medical profession terms "Diploma Mills."

3. Reciprocity. The bill requires all licensed through reciprocity shall have Class A college standard (A. M. A.), and I note the act is especially careful in defining in this instance, so no doubt can exist. This would be especially beneficial to the Louisiana Board of Medical Examiners in regard to increasing business as a man of "fair education" would naturally be examined in Louisiana where the requirements are low.

4. In regard to midwives one member of the Board is allowed to examine and license applicants (probably one member will do most of the business). All that is necessary is to appear before the Louisiana State Board of Medical Examiners and "submit to such examination as the Board shall require"—more correctly speaking, the members delegated for that purpose—extremely definite as to moral and educational requirements.

5. The bill is very explicit on the pay proposition. It is come across before January 1st every year and pay \$2.00; every doctor and midwife affected by this act or close up shop and have your certificate revoked. Clearly unconstitutional.

6. Conclusion. My prophesy is that all the other States will refuse to reciprocate with Louisiana after this act is understood as it does away with all definite requirements and makes the Louisiana Board of Medical Examiners a complete Medical Autocracy in Louisiana and a good paying proposition for the reigning members.

Stubborn Cases of Rheumatism.— "Many stubborn cases of rheumatism respond rapidly to the influence of Tongaline. This product, representing the highest degree of pharmaceutical skill, contains the salicylates in an unusually potent form, because they are not obtained by synthesis but from the natural oil. In addition to their potency as anti-rheumatics they possess the advantage of not deranging the stomach.

Physicians who appreciate honest pharmacy will find in Tongaline a product worthy of their highest commendation and confidence."

WHAT I HAVE BEEN INSTRUMENTAL IN ACCOMPLISHING IN 8 MONTHS AS A WHOLE TIME HEALTH OFFICER.*

By F. M. Register, County Health Office, Jackson (Northampton County), N. C.

To tell what a whole time health officer is instrumental in accomplishing and not over estimate or under estimate is certainly a hard question. Health work I am sure is at least ninety per cent. educational. You try to educate the people just as the teacher in the schools tries to educate his pupils. His success in educating the pupils depends on three things; his ability to instruct; the pupils' ability to receive instruction; and the co-operation of the parents. So in health work the same thing applies. The health officer's ability to instruct; the peoples' ability to receive instruction; and the co-operation of the people at large. In starting up our work in Northampton County, I made as many mistakes, it seemed to me, as Heinzes' 57 Varieties. I am glad to say that I found a great number of my mistakes, and corrected a greater part of them. The greatest thing I have accomplished is getting the co-operation of the majority of the best people in the county. Another thing is getting all the publicity for the work possible. This is done by always being on hand at gatherings of teachers, farmers, and politicians with something on sanitation, for instance, a model of a sanitary toilet, charts, etc. Always letting the people know what you stand for. I have the grand jury during court visit my office and report conditions just as they do in other public offices. I had exhibits at all the Community Fairs in the County. I have visited all the schools, except eight in the County and examined those supposed to be defective, as indicated by the teacher's examination. Vaccinated 750 school children against smallpox. Over 50 have had defects remedied. Have talked in all the schools, and one thing I have tried to impress on the minds of the children is that I am their friend, not an officer in the sense as usually understood, viz., Sheriff—but a specialist in disease prevention, in other words a County Health doctor. This simple thing I am sure went far towards getting the co-operation of the people. I have vaccinated over 5,000 people, giving three doses to each.

*Read before North Carolina Medical Society meeting, at Pinehurst, N. C., April, 1918.

Have examined over 2,000 people for hookworm, and treated over 600 for this disease. Made a sanitary survey of over 3,000 homes and was instrumental in building 726 sanitary toilets. Gave 97 lectures at schools and other places, with an attendance 9,075 people. Distributed 5,000 pieces of literature. Wrote 52 articles for the newspapers. Did all the quarantine work of the county and all other routine work as county physician. Was instrumental in getting water and sewerage in court house and jail. Arranged for an essay contest for the school children. Subject, "Sanitation in the Home and School." Also contest for the householders and schools making the most sanitary improvements. Result, 41 schools improved their sanitary condition. 900 specimens examined for hookworm, 100 householders improved their sanitary condition, 200 children wrote essays on the subject, and 3,000 survey blanks were filled out by the school children. Taking everything into consideration, we feel right much gratified at the amount of work done in Northampton County during the first eight months of health work. It would be unfair in completing this report not to give credit to those who have helped this department do what it has done. We are especially indebted to Dr. B. E. Washburn, County Director of Health Work; Miss Kate Lee McLeod, Microscopist; Dr. Mary Wetmore, Field Worker; Mr. P. J. Long, Superintendent of Schools; Miss Ethel Kelly, Rural Supervisor of Schools; W. M. Hall, Farm Demonstration Agent; Mr. C. E. Nelson, Field Worker; Mrs. F. M. Register, and Mrs. Sarah Randolph, Colored Supervisor of Schools.

Prostatic Troubles.

In the Prostatic troubles of men who are nearing or passing the meridian of life, as well as symptoms that are its concomitant, as difficult urination, sexual decline and premature decay, sanmetto is an indicated remedy. It is a remedy par excellence for these affections which befall men after the age of fifty. It is also a valuable remedy in case of ovarian and mammary affections in females. Sanmetto has been before the profession for a quarter of a century and has proved its right to stay. It is a soothing and building tonic to the reproductive organs and the urogenital surfaces.

BODY DUST.

By Jacques W. Redway, Meteorological Laboratory, Mount Vernon, N. Y.

The dust of the human body is a factor that necessarily concerns the sanitary condition both of the dwelling and the school room.

Body dust may be found throughout the dwelling, but it is concentrated mainly on the mattresses and about the bedsteads. The old style of wooden bedstead permits a much greater accumulation than does the modern metal frame. No matter how cleanly bed clothing may be kept, the accumulation of body dust tends to increase from day to day.

Body dust consists almost wholly of epidermis, or scarf skin rubbed off the body. Mixed with it is a certain amount of other foreign matter that seems to have been carried through the clothing and lodged upon the skin. Undoubtedly the solid matter of perspiration adhering to the body is also rubbed off and lodges both in the clothing and the bed clothing. It cannot be separately distinguished, however.

Epithelium cells—a few whole, but most of them in fragments—are mixed with the finely divided epidermis. From the fact that various bacilli develop when body dust is placed in culture media, it is reasonable to suppose that body dust is quite as full of germs as is other dust.

The body dust of health is very unlike that which results from the desquamation following such diseases as measles and scarlet fever, however; and it does not require expert use of the microscope to determine the difference. Indeed, the exfoliations of measles and scarlet fever are so unlike, that the determination of each is not a very difficult matter. "So far as the bedding of the household is concerned, the circumstances are usually sufficient to determine whether the accumulations are those of health or of disease.

The body dust of school rooms presents greater difficulties however. In proportion to other dust particles, the particles of epidermis are few; and, epithelium cells excepted, they may easily escape detection. One may look over the dust particles of several slides without making certain about the presence of body dust. But the exfoliations that result from desquamation are so distinctive that they may be quickly recognized.

The moral is obvious. Whenever measles or scarlet fever is suspected in a community the health officer is war-

ranted in a close scrutiny of the flying dust of the schoolroom. Past experience has shown that school houses have been the centers from which such diseases have pread through a community. And, if the exfolia of desquamation are found, floors and desks require a disinfecting wash.

The excessive production of body dust is not an indication of lack of cleanliness; it is rather a condition of health. Ordinarily, it is a normal process. Body dust is removed from sheets, pillow slips and underclothing by washing, the fortunate thing being its apparent solubility in soap suds. Its removal from blankets and mattresses is a more difficult matter; and about the only effective method is the use of the vacuum cleaner.

No investigation of the subject has been made in this laboratory and the foregoing paragraphs do not contain the information which the physician and the sanitary engineer should possess. The subject is an important field for research, however; for although the spread of body dust is not preventible as to its creation, the diffusion and dispersion of it may be controlled to a greater degree. The presence of body dust in the household and in the school room may not be a menace to health; the absence of it, however, will do no harm.

STRONGYLOIDES INTESTINALIS

By Henry F. Long, M. D., Statesville, N. C.

I purpose in this short paper to direct attention to that animal parasite called *strongyloides intestinalis*. This parasite, according to writers, leads a dual life, one phase in, and the other outside, the human intestine. The mature *strongyloides* is a minute, slender worm, measuring 2 to 3 micromillimeters in length and is snake-like in general appearance under low power of magnification. It infests the small intestine, boring deeply into the mucous membrane and frequently into the epithelium of Lieberkuhn's glands, both for nourishment and oviposition.

Manson says "this parasite must undoubtedly produce considerable inflammation of the bowel, but its pathogenic role has not been definitely ascertained; that it is usually present in large numbers, and has been found occasionally coiled up in the intestinal follicles. The larvae may pierce into the lacteals and have been found in the blood, and may even penetrate through the skin." And the writer, has in two instances, found the live worms in the vermiform appen-

dix. It is of wide distribution, particularly in the southern part of the United States. So much as to its history and distribution.

All the reporters, save only Manson, say that its pathological significance is doubtful, or that it is probably harmless or of no importance. My experience, if I have correctly interpreted it, has led me to believe that this parasite is far from being a harmless guest, and that it is of particular pathological importance and significance.

The mere fact that the worm is labeled harmless has made observers disregard its presence, and attribute to other causes the symptoms and conditions found in an infected patient. The symptoms, as found in the cases I have observed, are intra-abdominal, of a severe form and even of fatal termination. They are, to be brief, sudden and severe abdominal pain, cramps, tenesmus and muscular rigidity, pinched and dusky facies, anxious and pain-racked countenance—in fact, all the symptoms of acute peritonitis, save that there is no temperature curve, the blood count is normal and only a pain-provoked rise in pulse rate. Tenderness on pressure is general, not local but perhaps more pronounced in the upper abdomen. Usually a surgical condition is diagnosed, the appendix frequently, and the gall bladder occasionally being deemed the seat of inflammation. But when the belly is opened neither appendix nor gall-bladder are found acutely inflamed, nor is there visible cause for the severe symptoms complained of by the patient. In such cases of my series, I have found the patients infected with the *strongyloides* in immense numbers. All cases, whether of mild or severe infection, show a marked anaemia, which had existed over a long period of time, with bowel symptoms, such as slight diarrhoea with blood-stained mucous, and with attacks of pain which had been mistaken for appendicitis. We have had a series of 10 cases which have attracted our attention and study. One, a boy, was brought in under a diagnosis of appendicitis. I have never seen any one exhibit more evidences of acute belly pain. Morphine had been given but had failed to give relief. We made our usual examination, blood, urine and physical, and were surprised to find that the patient had no leucocytosis, no evidence whatever of an existing belly crisis but his tenderness was so marked, his pain so great, that we opened the abdomen promptly. We found nothing wrong with the appendix, gall-bladder or

any of the abdominal viscera, so far as we could determine. The pain was relieved after operation and did not return for about two weeks; then the ante-operation condition recurred and the patient died of pain at the end of the third week. This freedom from pain after operation was probably due to the fact that the patient had taken ether, and this caused a temporary cessation of activity on the part of the parasites.

After the operation a specimen of the first bowel movement was examined and this parasite was found to be present in large numbers. Specimens were examined daily and we became satisfied that this patient died from the effects produced by this worm. Case No. 2 was brought in with every symptom of acute appendicitis with impending perforation. The usual routine examination revealed the fact that again there was no leucocytosis, no temperature, but feces showed a heavy infection of the strongyloides. This man lived about 4 weeks. The postmortem examination disclosed no intra-abdominal trouble, but the mucosa and the submucosa in the small intestine from the ileocecal valve for a distance of three feet had been practically destroyed, and of course the follicles also. The other 8 cases were not of this severe type and have lived.

The cases that have recovered have yielded to treatment of thymol and male fern. We advise the administration of male fern and thymol, given alternately each second week until all evidences in the feces disappear.

Conclusions.

1. That the strongyloides intestinalis is a dangerous parasite, and that it is much more prevalent than we are led to believe.

2. That it produces symptoms that so closely resemble a belly catastrophe that the best of surgeons may be taken unawares.

3. That we strongly advise the careful examination of the feces wherein the blood count, temperature and pulse rate are not in accord with the apparently obvious belly crisis.

4. That the diagnosis can be made by one with only a limited knowledge of microscopy and of intestinal parasites. This is not a new worm, nor one difficult to isolate in the feces.

Optochin in Pneumonia.—Stuhmer (Med. Klin.), as a result of his observations, believes that the administration of optochin is of value for the treatment of pneumonia in a certain percentage of cases. He found that in about 60 per cent. of cases it exerted a favorable influence and failed in about 40 per cent. The cases that failed to benefit by optochin therapy belonged to the more serious type of pneumonia, those which from the beginning were of doubtful outcome. He also observed that the administration of optochin is without value if a permanent fall in temperature amounting to at least 1 deg. or 2 deg. C. does not occur during the second day of administration. Stuhmer prefers to administer the remedy by mouth in the form of the more soluble hydrochloride. The doctor recommends as proper dosage 0.2 gram given at four-hour intervals throughout the twenty-four hours, a total of six doses daily. The patient should be watched carefully for tinnitus or impairment of hearing and the drug immediately discontinued upon the appearance of these early toxic symptoms. He says one instance of total amaurosis following a total of 2.25 grams in a period of forty-eight hours. Patients that react favorably to optochin treatment show a fall of temperature that begins by lysis on the second day of the treatment and usually reaches normal by the fifth or sixth day. A marked beneficial effect upon the general symptoms, such as prostration, delirium and dyspnea, also followed the treatment. He enters into a theoretical explanation of the method of its beneficial action by attributing the improvement either to a simple antipyretic action or to a specific property of the drug to limit the action of the pneumococcus toxins in their ability to produce fever and general toxic symptoms. He explains the failures of optochin therapy in certain cases by the theories that there are optochin-fast strains of pneumococci or that the drug is used in insufficient quantities and the consequent development of an optochin-fast strain results. Furthermore in some cases the drug may not reach the pneumococci in the lungs. The author has observed that empyema, extension of consolidation and relapses occur in patients under optochin treatment. The author concludes that the drug is of some value for its antipyretic and symptomatic effects in pneumonia, but that it scarcely can be regarded as capable of improving the prognosis to life.

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SEX HYGIENE MOVEMENT AND MEDICAL PROFESSION.

The universal law of compensation has no more striking demonstration of its efficacy than right now, in these fateful days of the world war. Destructive and disintegrating as the immediate and remote effects of this war are, the unseen forces controlling the evolution of human progress have ordained that this work of destruction inevitably brings out into existence in a similar eruptive and cataclysmic manner the great waves of constructive thought and action along different lines of social endeavor. The problems, movements and ideas that have been vegetating and hibernating in a dusk of indifference, neglect or distrust have been brought by the stress of military exigencies to the very forefront of public attention. Many economic and moral social problems that had been considered of so tremendous a scope and of such insurmountable difficulties of solution, as to lead to a universal tacit agreement to leave these social monsters dormant, have been cut, like the famous Gordian knot, by the mighty hand of the Federal Government in a practical and speedy manner. One of these social monsters—the problem of social evil has been uprooted and driven out of its lair by the magic wand of the Governmental action. The most thorough, systematic and far reaching campaign against venereal diseases and commercialized prostitution has been set in motion in all communities near military camps.

Never before the principles and aims of social hygiene movement have been presented before the public in a more forcible, outspoken and comprehensive manner. Never before the actual results have been more tangible and commensurate with the effort spent.

It is entirely beyond the scope of this editorial to discuss the methods and various aspects of this problem from sociological, educational or sanitary viewpoint.

The specific purpose of this writing is to point out the part that the medical profession should take in a movement of this character.

Medical man should be the natural leader and teacher in any movement bear-

ing on physical health of an individual or community, much more so in sex hygiene which touches the very roots of racial purity and strength.

What are the actual conditions? The profession, as a whole, is not only profoundly indifferent and laggard in the matter, but often cynical, scoffing or openly hostile to the movement. Here, as elsewhere, the profession has forfeited and yielded to others its natural privileges of leadership, and is lagging behind reluctantly.

What is still sadder and more important—the medical men, as a body, do not realize the tremendous eugenic and sociological possibilities of the sex hygiene movement. The average practitioner does not see in the Federal action of closing the restricted district anything more than a mere local administrative change of social control of this age long nuisance. While in his professional work the practitioner comes in daily contact with the wreckage wrought by sex pathology in the life of individual—his mind does not grasp the sex problem as a whole in all its manifold sociological aspects. The problems of abortions, birth control, sex perversions, masturbation, prostitution, marriage, as an institution, etc.—all these problems are to him merely disconnected, faint and confused notions.

And yet, no blame should be attached to an individual physician. The sexology is the youngest branch of medical science, and, as such, is unknown to a graduate medical student. The sexology is completely ignored and overlooked in the curriculum of medical colleges. Nothing but most elementary facts of gross sex pathology—syphilis, gonorrhea, chancre—are given to the student. Functional, psychological and social aspects of sex are consistently and thoroughly suppressed.

Under the circumstances it seems that the first step in the sex education of the profession should be made in the curriculum of medical colleges. The center of attention of the medical education is slowly but steadily swinging toward the preventive and social aspect of medical problems. The attitude of medical academic thought needs an immediate and radical revision. This will assure at least to the coming generations of medical men the modern, progressive and scientific training and knowledge of sex problems. In the meantime the profession at large, through its eladers and writers should agitate and arouse the slumbering and indifferent rank and file to the steadily increasing urgency and importance of sex

question, as a medico-sociological problem, to restock, as it were, the profession with the adequate knowledge of facts and theories offered by the modern sexological research and to restore the profession in its natural rights of leadership in the sex hygiene crusade.

CHIEF FACTOR IN THE CAUSE OF RESPIRATORY DISEASES.

Bacteriologically speaking, barring traumatic causes, there is but one etiologic factor for inflammatory conditions of the respiratory organ or its tract, i. e., infection by means of the pneumococcus, the streptococcus, staphylococcus and many other microscopical entities, even the colon bacillus. Those who are free from the invasion breathe in as many of them as those infected, they are all about us.

There must be a pathological condition antedating the invasion, somewhere from the Schneiderian membrane down to the air vesicles or the whole passage way. This is nothing new, and we believe a settled fact. What brought about this condition of the mucous membrane in the first place? This is a wide awake question at the present time, and should be settled.

The New York Medical Journal comes out strongly upon the question of Meteorological states (Vide May 11, 1918), depressing effects of cold in particular, as against dust, stating that pneumonia and influenza are a veritable plague in the Arctic regions, all this is true but not enough.

Following anaesthetics, particularly in cases where the mouth and throat have not received the proper antiseptic attention, pneumonia and its allied respiratory affections are prone to follow—this is not enough.

Irritation of the mucous membrane by means of chemical fumes particularly the acids, smoke, ill ventilated rooms, churches, concert halls, theaters all act as irritants, even this is not enough.

There must be wholesale invasion even though the respiratory mucous membrane has become irritated. The important question arises wherein do the "germs" flourish mostly, both in quantity and virulency.

Somewhere out in Colorado, a physician, an internist, made the statement that for twenty-five years he has taken no little interest in this subject, and with but few exceptions has traced every case to not

impure air alone, but to cold impure air.

In the bunk houses, especially in mining camps, where many are huddled together, the early evening is spent by gathering about a comfort producing stove, when the inmates retire, the house is almost hermetically sealed, in order to keep out the cold. In the still hours of the night when all are asleep, oxygen in the air is not only small in quantity, but even this is vitiated by the carbon dioxide exhaled by the occupants of the room. Three things occur. Irritation of the respiratory tract, force of internal resistance much depleted and rapid increase of the germ of infection in a medium well adapted for its development, and with little or no resistance from oxygen, well suited to strengthen them in their virulency. If this be true are we to be surprised that pneumonia and influenza, are a veritable plague in the Arctic regions, when the inhabitants crawl into their huts, and keep out every vestige of pure air? Those who escape infection have their immunity from the "bug" to thank or their active germ killing endocronous system if you wish, rather than being accustomed to cold. Is there much difference in the closed Esquimaux hut, and the army tent with its flaps closed?

All this could, with a little trouble, be put beyond conjecture, by sifting the air early in the evening and comparing the same with that subjected to test in the early morning. Here is a field open to some ambitious bacteriologist.

The whole question of the chief factor in the cause of respiratory affections, lies in prophylaxis. Barring poisons, one seldom becomes infected while in the open air, no matter what may be the condition of the elements. Depressed condition may follow undue exposure, but the individual gets his infection only when he enters some vitiated atmosphere laden with the disease germs with which he becomes infected.

If the irritation comes through chemical fumes, gases, etc., and the patient be placed as nearly as possible in the open air, he will escape infection, the reverse will follow if he be kept in a poorly ventilated room, where there are other occupants. It is not the anaesthetic that produces pneumonia after an operation. It is the unprepared room or ward in which he is placed, that brings about the complication, with which the observant surgeon rarely, if ever, meets.

Close observation upon the battlefield, as to the outcome of non-fatal cases of

"gasing" might add much to the above claim whether it be made in warm or cold weather.

THE WAR AND INTERNS IN SPECIAL HOSPITALS.

For two reasons the Department of the Surgeon General of the Army has signified its desire to promote the education of interns in proper hospitals for as long a period as the exigencies of war will permit: Primarily, that the future military surgeon may begin his medical career with as much professional experience as possible; secondarily, so that the organization of hospitals for civilian treatment and for instruction of physicians and nurses may not be unnecessarily disrupted.

How far do these considerations apply to certain special hospitals such as hospitals for women, children, consumptives, eye and ear cases, and insane, and what should be the policy of the army with regard to interns in such institutions?

It seems clear that thorough education in all types of cases treated in the above, except maternity and children's hospitals, will have definite value for military purposes and that the same policy with regard to interns in these should be followed as in general hospitals. Probably the children's hospitals may be placed in the same category as the others, as the medical and surgical experience gained therein is such as to afford a substantial foundation for military service, and this taken into consideration with the desire to preserve the hospital organization should warrant the placing of children's hospitals on the same basis as general hospitals so far as intern service is concerned.

With hospitals for women the situation is very different. Service therein is intensive in a branch of medical science which has no direct relation to military needs and therefore such hospitals cannot receive the same consideration as other hospitals as places of preparation for military service.

On the other hand, it would seem that in such hospitals the organizations could be properly maintained by the aid of personnel not fitted for army service. Not every medical student is eligible for active military service of the kind to be anticipated and desired by the young medical man who has at last reached the place in his career where he can be of great value to the country.

General hospitals should give first choice to those who are physically fit for

the work in the army and navy while young men who are not physically handicapped should equally seek internships in hospitals where they can obtain the best possible training for military service. Those who, by reason of physical disqualifications, are not entitled to enter the country's service in its military branches should welcome the opportunity to aid in its general efficiency by engaging in other work essential to welfare.

Thus, by co-operation between hospitals and between hospitals and student, can we come nearer a solution of the tremendous problem of making the supply of medical men meet the requirements of war.

With the use of women physicians, medical students and the proper allotment of student interns to places where they can be of the greatest use according to their qualifications, it would seem that an obvious difficulty may be at least minimized and the authorities in medical schools can aid materially in advising their young men as to the proper course to pursue. Some men who have a special interest in obstetrics and gynecology may dislike to abandon the opportunity to specialize in such branches during the period of their internship, and surely the country cannot afford to be without the services of men so especially educated, but the needs of our fighting men are immediate and imperative and our young men will no doubt be willing to sacrifice their personal ambitions for a time as many of the older men of the profession have already done.

The foregoing is the result of interviews with officers of the Surgeon Generals Department by a representative of the American Hospital Association. It has been submitted to them and is believed to fairly represent the policy of the Department with regard to interns in special hospitals.

THE MARK OF LOYALTY TO COUNTRY.

No one during the carnage of war can postively say which of the casualties were unavoidable and necessary, and which if any were needless, because they might have been prevented. Nature simply holds the casualty list up to the people, and then leaves it with the nation to make the most of the object lesson.

To the scientifically trained mind, the loss of a battle or the price of a victory always suggests questions and demands reasons. Bulk, to the scientific man,

doesn't mean much.

In so-called peace times, a people is by its handling of economic, of sociologic, and of moral principles either adding to the power of national life, or else that people is in its everyday living undermining the foundations of national structure. And the mark of loyalty to country, fastens itself only upon the strictly scientific practices of a nation's citizenry.

Science has nothing whatever to do with individual or community ideas about right or wrong. Science tries to interpret evolution. Interpreting evolution aright, and then living in accordance with evolution's laws, is the mark of loyalty to country.

It does not in the least matter whether a people realizes the fact or not, a nation is ever, but "The grist of the Mills of the Gods." And so it inexorably comes about that when a young man for physical, mental, or moral conditions is rejected for army service—evolution says that that rejection is just so much comfort to Germany. Science says if the disability was caused by preventable disease, that it was a mark of disloyalty to country when the community allowed the disease to cripple the man. Evolution cares not a bit as to what a people may believe about the disease; the money that a people may make out of things kindred to the disease; a people's views regarding the alleged sacredness of the so-called democratic principle that, "The majority rules;"—none of the practices that follow from public opinion's beliefs influence in the least, the grist that evolution grinds out for that people. The rejected young man is a helper of Germany, and that's all there is to it!

Evolution plays no favorites, but carries the same reckoning over into the army, and dooms the soldier who is less morally, mentally, or physically than the best possible—it dooms such a soldier to an unequal chance in hand to hand conflict. This is cold science. And it is a mark of loyalty to country, to respect to their fullest, evolution's laws.

Without doubt evolution's laws are more disregarded in the army in the use of narcotics, than in any other unphysiologic practice. Evolution has an accounting with anything that is not physiology. Business learned to respect physiology, by having to pay for loss of efficiency; and from having to pay the bills for personal injury that had been caused by cigarette narcosis. Business is the servant of money, and after awhile money showed in

business footings the loss of efficiency, and the money danger in the narcosis and business outlawed it.

It's a mark of loyalty to country to call attention to the inevitable results that will follow the cigarette narcosis. Alcoholic narcosis is next, in the number of soldiers' deaths it will cause. The alcoholic narcosis lesson has been learned at incalculable cost—so well has it been learned that by no one, is any degree of alcoholic narcosis looked upon as a mark of loyalty to country. No mind is as good a mind under narcosis as it was before the narcosis. That fact needn't be argued to physicians. The army needs the help of the unflinching advice of physiologists.

X-ING A PARAGRAB.

During the last few years, physicians have been puzzled as to why, regardless of carrying out every recognized treatment in cases of so called wandering rheumatism, other patients have not recovered.

All conceded, at this date, there is a focus somewhere from which the trouble comes. Where does it exist?

Throat specialists have shown, that when the tonsils are affected, within which crypts containing pus are found, the same should be removed, as this is one of the leading sources of infection. They are removed and yet, in some, the trouble continues.

Dentists have shown that the cause lies in the pus pockets of sometimes healthy, and sometimes decayed teeth, which feed the system with the streptococcus viridens. None dispute either of these causes, particularly so if he recognizes the fact that rheumatism is due to the invasion of the system by the toxins produced by the streptococcus, or by the streptococcus itself.

Wherein does this confusion exist? Those who have read Edgar Allen Poe's "X-ing a Paragrab" will find a means by which the problem may be solved, as in mathematics X is always used as an unknown quantity.

The tonsils have been removed, in many cases followed by recovery, but others not benefitted in the least; all of the teeth have been extracted with the same results. It has been the experience of every physician, but he finds the success of such procedure, has become so transfixed in his mind, that he stops there, and neglects the important factor,

there may exist, an antecedent to the cause.

Why does this condition occur in some and not in others? Why, with the removal of the cause, i. e., the focus, one recovers, the other not?

The medical profession is awakening to the importance of the endocrinous system, in counteracting infection of all kinds. It might be possible that in the near future they will learn, that it may be more convenient to the patient, to restore his protective powers against infection rather than remove the parts infected. This can be accomplished only when they discover, just how nature makes one immune to disease and another particularly susceptible. Theory or no theory this fact is bound to be accepted.

Does vaccination prevent smallpox by providing the proper antidote for at least seven years, or does the vaccine so stimulate or stir up the ductless glands that their secretions are brought up to the point of interference for which they were originally intended? Does diphtheria antitoxin cure directly or indirectly? If the former, why does it cure some and not others? It may be possible that someone or all of the ductless glands may have become so far degenerated as to be beyond stimulation. Until the exact function of the individual glands of this most mysterious system becomes thoroughly understood, the above must remain more or less subjudice.

Every organ in the human body is dependent upon some remote point for its local power. The attending physicians should not be too sure that the organ affected is due to a local affection; let him look for the cause and not stop there, but look for the antecedent of the same. When they read "X-ing a Paragrab" it is not very difficult to make it out, when he knows that X equals the letter "O," or that the unknown quantity has been found.

THE DOCTOR'S TELEPHONE.

Good wife, here I fain would linger, on
this stormy, wintry night—
Linger here and if folks want me tell 'em
I'm not feeling right;
Tell 'em that I'm tired and weary—got
the ague or the gout—
Any bloomin' thing you think of, for I
cannot venture out.
Can the telephone and door-bell, just
prepare a nice white lie,
For no calls for me this evening even
folks may say they'll die.

This is the place and its environs that I
call my little home,
So from this, my bonny castle, on this
night I will not roam.

How the wind the windows rattle and the
snow piles 'round the door,
So we'll sit in blissful quiet, since the
weary day's work's o'er.

Yes, I'll slip my slippers on my tootsies
and will put 'em up just so
And will rest in solid comfort while you
read to me, or sew;

Well, since you insist upon it I will read
some tale with care,
While you're finishing your 'leveenteenth
sweater for the boys who're "over
there."

Shall it be of prose or poetry, or some
lines on freedom's cause,

How we'll rid the earth of tyrants—
strangers to all human laws?

Hark, that blanked 'phone is ringing, an-
swer it, say something, dear,

(I knew she couldn't tell one, for
"Y-e-s," slowly-like she says, "he's
here.")

"All right," real grouchy as I up and
saunter phone-ward, cussing in an
undertone,

Wondering whether 'twas a blessing, the
invention of the phone.

"Hello," I camouflage my voice real
throaty-like as if I had the grip,

"What's that—Susie Trotter's awful bad
%I must make a country trip?"

You say she's numb—can't speak—first
she'll laugh and then she'll cry

All the neighbors gathered in and think
perhaps she'll die.

Listen! giv'er a cup o' warm mustard wa-
ter and she'll be all right,

And, say, put on her chest a mustard
plaster—make it good and strong—
goodnight."

"Ha, ha!" I chuckle as I produce a stogie
and begin to hunt a light,

"A little skill will thwart the wil lof
cranks who'd rob your rest at night."

There it is again, no, I'll go, my dear, you
can't prevaricate,

"Hello, aunt Sallie Perkins—gas on her
stomach—why does she call so late?

"She's doctoring with a specialist who
won't make calls at night

And if she called ME in emergency with
him 'twould be all right?"

Steeped in disgust I take my easy seat
and we talk the war and other things,
But the silence soon is broken by the
'phone's tempestuous rings.

"Yes, it's me," I say, ungrammatical like that,
 When pipes a voice from out nowhere:
 "Doc, get your coat and hat,
 My wife's kinder uneasy-like about our little Jim—
 Fever—jerks in his sleep—better come and take a look at him."

It thus goes on the whole eve thru—we do not get our rest,
 To shun the stormy night wind I keep sparring at my best.
 Comes a lull now in the phone-bell since most cranks have gone to bed
 But the demon of anxiety fills our souls with mortal dread,
 Lest once more it go to ringing, urging me to face the night—
 And I feel myself a-slipping, half-afraid I'll lose my fight.
 But my fears methinks are foolish, so we retire to seek repose
 And soon there's stealing o'er me a blissful sort of doze.
 Then—"Don't you hear it," says my wifey, "that 'phone rings and rings like mad
 And I just feel it in my bones that it's something awful bad."
 "Hello!" I snort real surly—"Er, it's Missus Green, you say,
 Again—so soon—the water's broke and they want me right away."

Flown are your bunk resolutions when the stork is calling you,
 His shadow hovering o'er your pathway, calls you forth to dare and do.
 So what's the use of resolving? Let it rain or snow or hail or blow,
 The busy stork bird's calling, so I leave my bed and go.

W. T. M.

EDITORIAL NEWS ITEMS

Dr. Henry W. Littleton died at the Charlotte Sanatorium, Charlotte, N. C., June 10th. Dr. Littleton formerly resided at Albemarle, N. C., and only went to Badin recently. He was a bright young man prior to the time he lost his health, and had a promising future.

Dr. O. B. Mayer, of Newberry, S. C., died June 10th. Dr. Mayer graduated at the South Carolina Medical College in 1874. He was a successful, prominent physician and had the respect and confidence of the people in the town and community in which he lived. He was honest and a cultivated professional gentleman.

Dr. E. L. Brancome, forty-eight years of age, a leading physician of Galox, Va., committed suicide on June 22nd by taking a dose of poison. An unfinished note in his typewriter said that, "trouble had caused him to take poison, it is taking effect and I must lie down and die." He was a successful business man and was in good circumstances.

Dr. J. L. Spruill, formerly of Columbia, N. C., has located at Southern Pines. Dr. Spruill is a well known physician and we congratulate the town and that section of the country on securing the professional services of such a valuable man.

Dr. R. G. Tuttle has received his commission as quarantine officer of Stokes county, from the North Carolina State Board of Health. Dr. Tuttle is a graduate of the North Carolina Medical College. He was licensed in 1909, and joined the State Society in 1912. He is a competent man and we predict for him success.

Dr. A. F. Mahoney of Clio, S. C., was recently commissioned as a first lieutenant in the Navy. Dr. Mahoney graduated at the University of Louisville in 1911.

Dysenteric Rheumatism.—Dorendorf has seen 59 cases of this affection which he also speaks of as a "rheumatoid." It is essentially a phenomenon of convalescence and is more prone to attack the rheumatic than the hitherto normal subject. A bacterial cause or infectious nature has not yet been shown to exist. The affection does not yield to antirheumatics or to specific antisera. It is very obstinate toward treatment but will end in recovery with time.—Correspondenz-Blatt fur Schweizer Aerzte.

At Camp Sevier, Greenville, S. C.—We understand through the health officers of the surgeons from that camp that 20 per cent. of the drafted men received into the service there are suffering from hookworms. The most of these drafted men who come from the eastern section of South Carolina, seem to suffer the most. The treatment it is understood, is very successful.

Col. E. C. Register and Brothers. Family of Recently Elevated Camp Greene Official All Fighters.—The recent elevation in rank of Major E. C. Register, camp surgeon at Camp Greene, to the rank of lieutenant colonel, is made additionally interesting because of a big space devoted by Leslie's Weekly of June 22, to Colonel Register and his brothers, five of the family now being in the service of the United States.

Beneath a large page cut of the photographs of the five fighting members of the family, all of whom are nephews of Dr. E. C. Register of this city, is the following subcript:

"The little town of Alcolu, S. C., with a population of only six or seven hundred, is justly proud of the family of Mr. and Mrs. J. W. Register, consisting of seven boys and one girl.

"Five of the boys, shown above, have volunteered for service with Uncle Sam's forces and all occupy enviable positions in the service.

"Major—now Lieutenant - Colonel—Register, is a graduate of two medical colleges and a post-graduate of the Army Medical School.

"R. E. Register is a wireless operator in the navy, now in service at Charleston. D. W. Register, a graduate of the Atlanta Medical School, is an assistant surgeon in the navy at Charleston, S. C. J. L. Register is in the aviation corps at Pensacola, Fla., and Prof. A. R. Register resigned a lucrative professorship at Clinton College to enter the service at Camp Jackson."—Charlotte News.

Dr. V. M. Long, of Winston-Salem, N. C., has been commissioned a lieutenant in the Medical Reserve Corps, and is now located at Camp Wadsworth, Spartanburg, S. C. He is the tenth physician to enter the service from Winston, N. C.

Dr. G. W. Wright of Chilhowie, Va., has accepted a position as assistant physician of the Southwestern State Hospital at Marion, Va.

Medical and Divinity Students Must Register.—The war department authorizes the following statement from the Provost Marshal General: "Divinity students and students of medicine must register. Registration comes first and exemption afterwards. It is absolutely necessary that these students register." The only men not affected by the new law are those now actually in the military or naval service.

Dr. Casper Jennings and Miss Majoria Lea were recently married. Dr. Jennings is from Greensboro, N. C., and his bride was from Richmond, Va. He is at present acting as physician and surgeon at the DuPont powder works at Pennington, Va.

The State Hospital for the Insane, located at Columbia, S. C., was recently partly destroyed by fire. Sixteen patients were lost in the flames, and eleven others are still missing besides five were seriously burned in this deplorable fire. This sad circumstance suggests that these old fire trap hospitals and asylums should be replaced by fire-proof buildings.

The Norfolk County Medical Association of Virginia at one of its recent meetings elected officers for the ensuing year as follows: President, Dr. Powhatan S. Schenck; vice-president, Dr. Southgate Leigh; and secretary-treasurer, Dr. Daudridge P. West. This society is one of the most active of any in Virginia, its policies always tend to build up and construct principals that will be beneficial to the medical profession, not only to that section of the country, but all over Virginia.

The State Department of Health of Virginia had about 20 of its State Summer Normal schools this year giving lectures on Preventive Medicine and Hygienic principles, methods of inspecting school children, etc. This is a splendid idea.

Among those who have already been selected for delivering lectures, we notice the names of Dr. B. W. Garnette, Dr. Paul B. Barner, and Dr. Mary Evelyn Bryden, other appointments and selections will be made in the near future. The main thought brought out and emphasized in these lectures will be the importance of the prevention and spread of all kinds of diseases, and impress upon the teachers of the various institutions, the necessity for them to pay particular attention to the instructions along this line.

The Armour Red Cross Unit.—In the parade were: a band, a squadron of police, the Armour Volunteer Training Corps, the Armour Red Cross Unit, the Armour Girls Marching Corps, and the Armour Boy Scouts.

The Flag Raising Program was held in front of the Armour Wholesale Market and after the singing of the Star Spangled Banner, in which Mr. Armour led, the flag was raised while a bugler played "the

Salute to the Colors." Then Mr. Hoyne was introduced and after a few words he gave way to Mr. Armour. When the chief of the great industry arose the stock yards rocked with the cheers of the thousands. So affected was Mr. Armour that he could not speak and after a "Thank you, thank you, this is great," he called for a cheer for the flag. It was given and given as a cheer never before has been given in the stock yards. Then the crowd sang America.

During the program the crowd spoke in unison an "American's Creed," which follows:

"I believe in the United States of America as a government of the people, by the people, for the people; whose broad powers are derived from the consent of the governed; a democracy in a republic; a sovereign nation of many sovereign states; a perfect union, one and inseparable, established upon these principles of freedom, equality, justice and humanity for which American patriots sacrificed their lives and fortunes. I therefore, believe it is my duty to my country to love it; to support its constitution; to obey its laws; to respect its flag, and to defend it against all enemies."

Fifteen thousand employees of Armour and Company, more than 75 per cent. of them of foreign birth, got a close up of "the Big Boss," at the Flag Day Exercises June 14 at the Chicago plant. They liked the personal touch and "the Boss" liked it.

When J. Ogden Armour appeared on the speaker's platform with Maclay Hoyne, the principal speaker of the day, and A. Watson Armour, F. Edson White, R. J. Dunham and G. B. Robbins, vice-presidents of the company, he was acclaimed in more than thirty tongues. Every foreign tongue spoken in the United States can be heard in a tour of the Armour plant and the "Viva, Vive, Evviva, Atzye, Niech Zyje, Zivio, Eljen, Da, Zdravstvuet and Banzai," were given as lustily as were the typical "Ray's" of the Americans.

The real feeling of the crowd was expressed in the mutter comment of one member of the great throng when he spoke aloud to himself, "Gad, this is true Democracy."

It is the occasional personal touch that counts in great organizations and events of this kind where the "boys" are given a chance to come into more or less intimate contact with "the big boss," always are reflected for days afterward in in-

creased efforts on the part of the employees.

Preceding the principal program which included the raising of the flag, a parade was formed which marched through the stock yards and through the streets between the plant buildings.

A Case of Claustrophobia.—Rivers, in *The London Lancet*, records the case of a medical man thirty-one years old who was of a very nervous temperament and who suffered from osme stammering and a very pronounced form of claustrophobia. The latter condition took the form of being afraid of closed spaces chiefly on account of the possibility of not being able to get out of them should anything happen. This phobia seemed to date from the time when he was six years old and was forced to sleep on the inside of a "box bed." Various attempts to cure the condition by psychanalysis, in which he was told that his trouble was connected with some sexual experience, failed to disclose the true cause of the condition and did not relieve him. Finally by means of a plan of psychanalysis carried out by the author and the patient, in which he was told to remember and study his dreams and recall any events which they suggested, and which did not even mention the possibility of a sexual element, the cause was brought out and much relief resulted. The cause was found to have dated from the time the patient was three or four years old when he was accidentally locked in a dark hallway with a growling dog at its further end. This was followed by several severe illnesses which probably gave occasion for the relegation of the memory to his subconscious. The absolutely free association practiced in the analysis carried out mainly by the patient himself was what was required to recall the memory. It is emphasized that much harm can be done and many failures recorded when psychanalysis is practiced with the obsession that there must be some suppressed sexual element at the basis of the patient's trouble. The only scientific way to proceed is to encourage absolutely free association of ideas without suggestion as to the probable ultimate revelations which will emerge. The associations should be analyzed as they occur and the patient's thoughts then directed somewhat along the lines which seem the most promising.

BOOK NOTICES

Chicago Northwestern Railway, Min-
Emergencies of a General Practice, by
Nathan Clark Morse, A. B., M. D., F.
A. C. S. Surgeon to Emergency Hos-
pital, Eldora, Iowa; District Surgeon
neapolis & St. Louis Railway; Ex-
President Iowa State Association of
Railway Surgeons; Ex-Vice-President
Pan-American Congress; Fellows
American Medical Association; Mem-
ber of the Society of Clinical Surgery
of North America; Author of "Post-
Operative Treatment." With 251 Il-
lustrations. St. Louis. C. V. Mosby
Company. 1918.

The scope of this book is expressed in
the title. The author has attempted to
record some of the observations and
practical experience of a somewhat active
service of forty years in emergency prac-
tice, the class of work where the attend-
ing physician is called on to think quick-
ly and to act with rapidity and good
judgment. Reference is also made to cer-
tain pathologic conditions, appendicitis,
tubal rupture, acute pancreatitis, etc.,
emergency cases though distinctly surgi-
cal. The general practitioner should be
familiar with the clinical symptoms of
these conditions, the prompt recognition
of which will only tend to relieve him of
personal responsibility, but will enable
him to insist upon surgical assistance at
a time most opportune to his patient.

Amputations, fractures, and disloca-
tions are considered strictly from an
emergency standpoint, or physician's first
aid. Special forms of amputation and the
more modern classical bone surgery are
not alluded to, due to the many excellent
text-books on these subjects. The object
of the author is to consider the common,
everyday accidents or emergencies that
may and do arise to confront the general
practitioner at a time when least expect-
ed. Definite information along this par-
ticular line is limited, not obtainable from
text-books, and certainly not available in
time of great need; therefore the author
feels that a work of this character de-
voted exclusively to this subject will
prove of practical value and material as-
sistance to many practitioners.

This book has 251 illustrations, and
they illustrate the text well. It has been
a long time since I had the pleasure of
looking over a book that I think will be
of more value to the general practitioner
than this one. It is well printed on white
paper, and contains 499 pages. I unhesi-

tatingly advise the general practitioner to
buy this book.

Oral Sepsis in the Relationship to Sys-
temic Diseases, by William W. Duke,
M. D., Ph. B. Kansas City, Mo. Pro-
fessor of Experimental Medicine in the
Department of Medicine in Western
Dental College; Visiting Physician to
Christian Church Hospital; Consulting
Physician to Kansas City General Hos-
pital, Kansas City, Mo., and to St. Mar-
garet's Hospital, Kansas City, Kansas.
With 170 Illustrations. St. Louis, Mo.,
C. V. Mosby Company, 1918.

In the preparation of this little book,
the aim has been to present as briefly and
clearly as possible the rather complex re-
lationship which frequently exists be-
tween infections of the gum and alveolar
process and certain systemic disorders.
This has necessarily involved a discussion
of some of the more complex problems
of bacteriology, immunology, and pathol-
ogy as well as of dentistry.

In the opinion of the writer, the dis-
covery of the relationship which fre-
quently exists between the various chron-
ic infections and systematic diseases
marks a great practical advance in the
science and therapy of medicine. For
centuries it has been evident to physi-
cians that certain acute inflammatory
lesions give rise to systematic disturb-
ances. One of the main advances of re-
cent years, therefore, has been the dis-
closure of the fact that small and ap-
parently innocent infections which give rise
to little or no local disturbances may like-
wise be the source of serious generalized
disease.

This book brings out thoroughly the
relationship between decayed teeth and
sore gums to various forms of infectious
systemic diseases. It deals very intelli-
gently and very thoroughly with diseases
that are supposed to have the origin from
defective conditions of the mouth. For-
merly the Adenoids and Tonsils were
held responsible for many of the condi-
tions that we have in mind, but now as
this book points out, the Adenoids and
Tonsils are not solely responsible for all
the cases that have their origin from this
section of the body. This is a good book
and right up to date in every respect, and
we take pleasure in recommending it. It
is a small book containing 126 pages, with
170 illustrations and they are printed on
thick white enamel paper.

Fresh Water Biology. By Henry Baldwin Ward, Ph. D. Professor of Zoology in the University of Illinois, Special Investigator for the United States Bureau of Fisheries, Etc. And George Chandler Whipple, Professor of Sanitary Engineering in Harvard University and the Massachusetts Institute of Technology. With the Collaboration of a staff of Specialties. First Edition. New York. John Wiley & Sons, Inc. London: Chapman & Hall, Limited. 1918.

For the ordinary student on this continent fresh water life has a significance heretofore greatly underestimated. In most parts of the country it lies at one's very door, readily accessible, and is indeed the only type of aquatic existence which can be studied living and at work. This fact gives to fresh-water life, once the student has been introduced into its domain, an appealing interest that fetters his attention and stimulates his desire to know something more of it. Among the most remarkable of early works that followed hard upon the first use of the microscope are some great classics which represent work in this very field.

Various European countries possess elaborate monographs on fresh-water organisms as a whole and on a single group, but no attempt has been made therefore to deal with North American fresh-water life in it entirely, and few treatises have essayed to cover completely any group of fresh water organisms. American workers in general have accordingly avoided this field and the few who have attempted to engage in its study have found their problems very difficult to solve.

The preparation of the present work was undertaken many years ago with the purpose of stimulating the study of the material so easily obtained and of aiding workers of all grades to acquire some definite and precise knowledge of the organisms met in such study. Each chapter has been handled by a specialist on the group and the result achieved by this method have a significance that could not have been attained in any other way. Conditions entirely unavoidable led to the completion of the different parts of the work at somewhat different dates. It is believed that this will not, in fact, impair the value of the work as a whole and will find an excuse in the magnitude of the task. Individual chapters represent a survey of the group treated that is complete, that in the absence of monographic reversions of the species of parasites noted any other method would have been

indefensible in a brief treatise.

It is very difficult to overestimate the importance of this book. The illustrations are numerous and on close examination they are not only interesting, but give a great deal of information. Really many of them have never been produced before. This volume contains 1112 pages and apparently gives all of the information on this subject.

Interpretations of the Dental and Maxillary Roentengrams, by Robert H. Ivy, M. D., D. D. S., Major, Medical Reserve Corps, United States Army; Associate Surgeon, Columbia Hospital, Milwaukee; Formerly Instructor in Oral Surgery, University of Pennsylvania. With 259 Illustrations. St. Louis, C. V. Mosby Company. 1918.

The purpose of this small volume is to present to members of the medical and dental profession the date necessary for making an intelligent diagnosis of pathologic conditions about the teeth and jaw bones in which roentgen examinations play a part. We believe that a basis for this will be formed by study and comparison of the numerous normal and abnormal views shown.

It has been said that the actual making of the roentgenogram is the elementary feature of roentgenology, and that those who know how to interpret roentgenograms are few in number compared with those who know how to make them. It is to interpretation rather than to technic that the writer has endeavored to call particular attention in the following pages, references to technic being limited to special points involved in examination of the teeth and jaw bones.

A departure from the usual method of presentation lies in the fact that in this work the roentgenograms are negative reproductions; i. e., they correspond with the original negatives in that bone and hard tissues are light, and soft tissues and spaces are dark, instead of being merely prints of the negatives, in which the light and dark portions are reserved; so that in studying these illustrations there is a near approach to natural conditions found in the original negatives.

In as much as the condition of the teeth plays such an important part in the cause of disease, a work of this kind is valuable and should be carefully read and studied by every physician. In this connection however, it might be well enough to express the opinion to some extent, that is that we blame bad teeth too often to various ailments that have other causes. The

tendency now is for doctors to sacrifice a fairly good set of teeth on account of some disease which was produced by some unrecognized condition. In this book I think the writer is fairly conservative along this line and we would not hesitate to recommend the book.

A Diabetic Manual for the Mutual Use of Doctor and Patient, by Elliott P. Joslin, M. D., Assistant Professor of Medicine, Harvard Medical School; Consulting Physician, Boston City Hospital, Collaborator to the Nutrition Laboratories of the Carnegie Institution of Washington, in Boston; Major, M. R. C. Illustrated. Lea & Febiger, Philadelphia & New York. 1918. Price, \$1.75.

For one diabetic patient who knows too much about his disease there are unquestionably ninety-nine who know too little. That is the reason for this little book, in which the author gives in schematic form the modern conception of diabetes and its treatment. The presentation is radically elementary, in the hope that a book of this nature, written in the light of recent discoveries in laboratory and clinic, will be a help to the general practitioner and useful as a text-book for his patients, thereby securing their intelligent co-operation, and thus enabling him to raise the standard of diabetes treatment. These pages emphatically cannot take the place of a competent physician, but the writer trusts that they will supply sound instruction in combating a disease which is statistically four times as prevalent in the registration area of the United States, as in 1900.

The manual is arranged in four parts. Part one might be called a diabetes primer. It gives in untechnical language a rapid survey of the whole subject, sketching fundamental conceptions and emphasizing their most important applications. Part II retraces with more detail and in more technical language the general field, and contains an outline of the treatment of the severer diabetes. The technic of becoming sugar-free and remaining so is described in detail. Part III contains diet tables and recipes which the author has found valuable in his daily practice. In part IV are described the simplest tests which a physician can employ for the estimation of sugar in the blood and the carbon dioxide in the alveolar air. These tests can be easily acquired.

This book is a small one with 187 pages. While its illustrations are few, they are

appropriate and sufficient to illustrate the text. It gives us pleasure to recommend the book.

The Treatment of Cavernous and Plexiform Angiomata by the Injection of Boiling Water. (Wyeth Method), by Francis Reder, M. D., F. A. C. S., Visiting Surgeon to City Hospital; Consulting Surgeon to St. John's Hospital and Missouri Baptist Sanatorium, St. Louis. Illustrated. St. Louis, C. V. Mosby Company. 1918.

This is a small book of 75 pages with several very fine illustrations. The manuscript for this book was originally published about three years ago in *Surgery, Gynecology and Obstetrics*. The article was well received and the author gave as his reason for publishing this little book that the reprints have all been exhausted. In the preface of this book the author mentions that Stuart McGuire of Richmond, Va., suggested about two years ago when he got out a book composed of all the papers that he had read before the Medical Associations of this country, in a very handsome volume, it was so well received until the author of this small book very wisely and in good taste has imitated the distinguished Surgeon.

The Physical Chemistry of the Proteins, by T. Brailsford, Ph. D., D. Sc., Professor of Biochemistry and Pharmacology in the University of California. Longmans, Green and Company, Fourth Avenue and 30th Street, New York. 39 Paternoster Row, London; Bombay, Calcutta and Madras. Price \$5.50.

The predominance of the proteins among the constituents of living tissues rendered them of especial interest to students of the biological and medical sciences. To the physical chemist the proteins present a variety of problems, while a large number of important industries are now utilizing proteins or products derived from proteins, their utility in the industries being mainly attributed to exceptional features of their physico-chemical behavior.

Our exact knowledge of the physical chemistry of the proteins is of recent date, but a good variety of facts are scattered widely in medical, biology, and chemistry which have hitherto never been adequately correlated. In this book, while emphasis is laid primarily upon general principles, the endeavor has also been made to provide for those interested in this subject a reference-book in which this widely scattered literature is collected and sys-

temized and rendered more generally accessible to students and specialists.

A previous edition of this work appeared, in German, six years ago. Since that time our knowledge of the physico-chemical behavior of the proteins has very considerably expanded and increased in exactitude. Among the particularly important investigations which have appeared during this period may be mentioned the invention by Van Slyke of an accurate and simple method of determining free amino-groups (Cf. Chapter I), the work of Pauli upon the combining-capacity of deaminized proteins (Cf. Chapters, VIII and IX), the work of Schmidt and of Uggla upon compound proteins (Cf. Chapter XII), the work of Reichert and Brown upon the crystallography of haemoglobin (Cf. Chapter CII), and that of Dabrowsky upon the muscular volumes of proteins dissolved in water and in solutions of coagulating salts (Cf. Chapter XIII). The present edition has been almost entirely rewritten and the literature has been brought down to the middle of 1917.

This cloth bound book with its 483 pages makes a handsome volume, and we have looked over it with pleasure and profit. It is a good book especially for any one who is interested in studying the subjects outlined in it. Its chapter on Electro Chemistry is of great value to the Electro Therapeutics. The author reviews the latter on this subject and thoroughly referred to as many as 73 articles that have been published by different writers during the last ten years.

Dietotherapy, Nutrition and Diet in Disease, by William Edward Fitch, M. D., Major Med. Res. Corps U. S. A. Formerly Lecturer on Surgery, Gynecologist Presbyterian Hospital Dispensary; Attending Physician to the Vanderbilt Clinic, College Physicians and Surgeons, New York City. And Forty Contributors. Volume III. Published With the Permission of the Surgeon General of the Army. D. Appleton and Company, New York City, London. 1918. Price, \$7.00.

Contributors to Volume III.

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The lists of illustrations to volume III are only eight, but they are very appropriate and instructive. The list of these illustrations are as follows: Gastro Peristalsis, Retention in the Stomach and Duodenum, as a Result of Adhesion of the Duodenum in the Third Portion, Secondary to Pancreatic Inflammation, Benedict University or Unit Apparatus; Potency of Bauhin's Valve (Lleocecal Valve), as Contracted by the Lleocecal Folds, the Cecum, Stomach Distended by a Recent Meal and the Colon by an Enema; Kemp's

Heat-Retaining Proctoclysis Bottle; the Einhorn Duodenal Feeding Apparatus, with Table Support. This volume in its general appearance corresponds with the former two volumes. It contains 929 pages, which of course makes a very handsome volume.

As outlined in the other two volumes, it gives the appropriate diet and the most modern methods of feeding all classes of sick people. It covers the ground thoroughly about the feeding of children during their various ailments, the quantity of diet for patients at various ages, and specific directions how to feed every class of patients during every kind of disease. Possibly the most valuable suggestions are those that deal with the proper feeding of patients suffering from infectious fevers.

How to feed patients with mental disorders is another section of the book that is very important. The diet in whooping cough cases is another valuable section of the book, and a condition that has never before received the careful consideration that is exhibited in this book. It is with peculiar pleasure that I recommend this great work.

1917 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 866 Pages, 331 Illustrations. Philadelphia and London: W. B. Saunders Company, 1918. Cloth, \$6.50 Net.

We always receive these volumes with a great deal of pleasure and examine them with profit. This volume is a very large one, printed on very fine white enamel paper. The 331 illustrations have been well and carefully selected. The material that makes up this volume is secured of course from the Mayo Clinics. While this material is of special interest and value to the surgeon, they are valuable and of use to the general practitioner and especially those who do some surgical work.

The Treatment of War Wounds, by W. W. Kenn, M. D., LL. D., Major Medical Reserve Corps, U. S. Army, Emeritus Professor of Surgery Jefferson Medical College, Philadelphia. Second Edition, Reset. Price, \$2.00. Philadelphia and London. W. B. Saunders Company, 1918.

This book corresponds in general appearance with the other manuals that this well known publishing house has gotten out descriptive of Medicine and Surgery during the war. It contains 276 pages with a great many well selected, appro-

prate illustrations. It will be interesting reading for the surgeon at home, and almost indispensable for those who are in the service.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences, Edited by Hobart Amory Hare, M. D., Professor of Therapeutics Materia Medica, and Diagnosis in the Jefferson Medical College, Philadelphia; Physician to the Jefferson Medical College Hospital; One Time Clinical Professor of Diseases of Children in the University of Pennsylvania; Member of the Association of American Physicians, etc. Assisted by Leighton F. Appleman, M. D. Instructor in Therapeutics, Jefferson College, Philadelphia; Ophthalmologist to the Frederick Douglas Memorial Hospital and to the Burd School; Associate in Ophthalmology, Philadelphia Polyclinic Hospital and College for Graduates in Medicine. Volume II. June, 1918. Hernia, Surgery of the Abdomen, Exclusive of Hernia; Gynecology; Disorders of Nutrition and Metabolism; Diseases of the Glands of Internal Secretion; Diseases of the Blood and Spleen; Ophthalmology. Lea & Febiger, Philadelphia and New York, 1918. \$6.00 per year.

Local and Regional Anesthesia, with Chapters on Spinal, Epidural Paravertebral, and Parasacral Anesthesia, and on the Other Applications of Local and Regional Anesthesia to the Surgery of the Eye, Ear, Nose and Throat, and to Dental Practice. By Carroll W. Allen, M. D., Assistant Professor of Clinical Surgery at the Tulane University of Louisiana, New Orleans; Lecturer and Instructor in Genito-Urinary and Rectal Diseases at the New Orleans Polytechnic; Visiting Surgeon to the Charity Hospital. With an introduction by Rudolph Matas, M. D., Professor of General and Clinical Surgery at the Tulane University of Louisiana, New Orleans, Etc. Second Edition, Reset. Philadelphia and London. W. B. Saunders Company, 1918. Price \$6.50.

This work is complete. You get history and evolution, principles, physiology, toxicology and technic. You get a chapter on nerves and sensation, giving particular attention to pain—what it is and its psychic control, and a chapter on osmosis and diffusion. Each local anesthetic is taken up in detail, giving very special

attention to cocain and novocain, pointing out their action on the system, the value of adrenalin, paralysis caused by cocaine anesthesia, control of toxicity. You get Crile's method of administering adrenalin and salt solution, the exact way to produce the intradermal wheal, to pinch the flesh for the insertion of the needle, all show you step by step. You get Crile's anoci-association anesthesia by quinin and urea, and by the magnesium salts, spinal and epidural analgesia paravertebral, parasacral, intra-arterial, intravenous, and general anesthesia with local anesthetics. The production of local anesthesia in each region is taken up in detail.

Since the appearance of the first edition of this book about three years ago, many improvements and much progress has been made in the field of local anesthesia.

With a general broadening of this field many additional operations have been added to the already long list of those commonly performed by surgeons skilled in the use of these methods. Notable among these additions is the removal of the prostate, a subject upon which the author worked for many years and which was but briefly touched upon in the first edition as there were many details not yet perfected at that time.

The addition of sacral anesthesia and some practical additions to abdominal surgery are among the recent advances.

Many valuable and useful additions will be found in the chapter on the head; the progress here has been very marked. Much of the text has been rearranged, and the chapter on spinal anesthesia has been largely rewritten.

The 260 illustrations are very good indeed. We are not familiar with any book that is more complete and up to date than this one. It makes a large volume of 674 pages.

In malarial conditions a diuretic is not indicated as often as the symptoms suggest, as one always has to contend with a torpid liver that is throwing a part of its work on the kidneys, meaning double duty for the latter.

In such cases the rational treatment is to use some agent which will stimulate all the excretory organs, dividing the duty of each and causing thorough elimination.

Tongaline either alone or in combination with other agents, as indicated, will invariably expel the malarial and other poisons promptly and thoroughly.

Miscellaneous.

EXAMINATION QUESTIONS N. C. BOARD OF MEDICAL EXAM- INERS, RALEIGH, 1918.

Practice of Medicine.

Dr. John G. Blount

1. Define leucocytosis: what is its diagnostic significance?
2. Describe acidosis in diabetes mellitus. Upon what test would you rely for the detection of diacetic acid in the urine?
3. What are focal infections? Illustrate.
4. Give the clinical symptoms and microscopic findings in pyelo-nephritis caused by bacterium coli commune. Treatment.
5. Describe acute infectious cholecystitis; etiology; symptomatology and treatment.
6. What are the symptoms of lead poisoning? Treatment.
7. Define traumatic neuroses or Erichsen's disease; describe a few of the symptoms.
8. What lesions involve the nucleus of the pneumogastric nerve? What lesions its trunk? Describe some of the symptoms of these lesions.
9. Differentiate between spasmodic and membranous croup. Treatment for each.
10. What are the essential differences between pellagra and sprue? Dietetic treatment of each.
11. What are the essential elements in the production of paresis?
12. What is acne?

Surgery.

Dr. H. A. Royster.

1. Discuss surgical shock: its causes, signs, and management.
2. Describe modern methods for the treatment of burns.
3. Outline the management of a compound fracture of the shaft of the femur.
4. Give the pathology, diagnosis, and treatment of tuberculous peritonitis.
5. Mention the signs of cerebral compression and the indications for operation.
6. Give the pathology, diagnosis, and treatment of hydrocele of the tunica vaginalis testis.
7. (a) What is a naevus, and what methods may be employed for its removal? (b) Describe the formation of an abscess.

8. Give the causes and treatment of rupture of the male urethra.

9. Describe (a) the etiology and treatment of iritis; (b) the causes, symptoms and complications of acute otitis media.

10. Define: Cholangitis; splenomegaly; proctitis; visceroptosis; mastitis; hydrocephalus; arthrodosis; pyothorax; rabies; coxa vara.

Pharmacology, Materia Medica and Therapeutics.

Dr. John Q. Myers.

1. How is opium obtained? (a) Name two alkaloids of opium and give dose of each. (b) Give physiological action of opium on the nervous system.
2. What are the medicinal uses of (a) Ipecac (b) Emetine (c) Strychnine.
3. What are the physiological effects of Nux Vomica on the nerves and circulatory system.
4. Define and give example of each of the following: (a) Narcotics. (b) Anesthetics. (c) Sedatives. (d) Antiseptics?
5. Name ten drugs most frequently employed and give the dose of each?
6. Name five diseases in which you would prescribe Arsenic.
7. Define (a) immunity (b) infection (c) amboceptors (d) phagocytosis.
8. Describe the treatment for bronchopneumonia.
9. Describe the treatment for cerebrospinal meningitis.
10. Outline treatment for uremia.

Anatomy.

Dr. J. F. Highsmith.

1. Describe the under surface of the cavicle.
2. Name the branches of the abdominal aorta.
3. Give the relation of the ureter, renal vein and artery as they enter the pelvis of the kidney and describe the ureter.
4. Name and locate the accessory sinuses of the face.
5. State the origin of the sensory division of the fifth pair of cranial nerves.
6. Describe in language or by drawing a cross section of the spinal cord at the first dorsal vertebra.
7. Name the bones for the ankle joint and give their relations.
8. Give the origin, insertion, action blood and nerve supply of the latissimus dorsi muscle.
9. Locate and briefly describe the broad ligament.
10. Give the gross structure of the stomach with blood supply.

Obstetrics, Gynecology and Pediatrics.

Dr. E. G. Moore.

1. What is hyperemesis gravidarum? Mention its causes and outline its treatment.

2. Tell how you would recognize a postocciput presentation. Wherein lies its danger?

4. Give the clinical history, diagnosis and treatment of puerperal infection.

5. What source of nourishment has the foetus in utero? Describe the method of its nutriment.

6. Define endometritis; state its causes, symptoms and treatment.

7. What is hysterorrhaphy? What are its indications?

8. Give the indications for and describe the technique of curettage.

9. Define acute poliomyelitis; give its causes, symptoms and treatment.

10. Give the clinical history of pertussis and outline its treatment.

3. Distinguish between alloy and amalgam.

4. What is iodine? How is it obtained? Its properties and its therapeutic uses.

5. Give formula for Glauber's salts; Epsom salts; Blue vitriol; Copperas.

6. What are proteins? Where in the body are proteins found? Name the chief proteins.

7. What is wood alcohol? Give formula and properties.

8. Give test for glucose in urine; uric acid in urine; lactic acid in stomach contents.

9. What food elements are essential in a dietary for the prevention of pellagra; for the prevention of scurvy.

10. What conditions would guide you in raising quarantine from small-pox, scarlet fever, and diphtheria?

11. What is the purpose of the Binet Simon test?

12. What would guide you in the acceptance of cow's milk as fit for food?

Physiology, Pathology and Bacteriology.

Dr. M. L. Stevens.

1. Enumerate the mental activities of the brain and define one of them.

2. Describe briefly the physiology of the heart muscles, and in connection therewith the conditions called heart block and fibrillation.

3. Why use physiologic salt solution (normal salt solution) for intravenous injection or for hypodermoclysis? What would be the effect of a stronger solution used in the same way? Of distilled water?

4. Define necrosis. Enumerate its various causes. Name the different kinds of necrosis.

5. Give the pathology of cerebrospinal meningitis.

6. Give the pathology of a syphilitic gumma. Name its cause and indicate the class of micro-organisms to which it belongs.

7. Name the acid-fast bacilli and state which are pathogenic and which are non-pathogenic.

8. Name all of the purposes for which you would use each of the following laboratory stains: Wright's Stain; Neisser's Stain; Loeffler's Alkaline Methylene Blue; Carbol Fuchsin; Bismarck Brown.

Chemistry and Hygiene.

Dr. Isaac M. Taylor.

1. What are the alkali metals? The general characteristics and valences?

2. What is water of crystallization? Distinguish between deliquescence and efflorescence.

The Superior Longitudinal Sinus in Infants; Its Value in Transfusion, and for Rapid Medication; Its Adaptability for Procuring Blood for Diagnosis.*—The anatomical position of the longitudinal sinus beneath the anterior fontanel, renders it very accessible in an infant up to the end of the second year. Its large size is another factor which aids in giving an infant the benefit of diagnostic and therapeutic measures which otherwise are difficult to obtain.

By the use of this sinus we have a direct channel through which a large or small quantity of blood can rapidly be taken from, or added to the circulation. Since time counts a great deal in depleted and marasmic infants, the simpler the route the more advantageous to the infant.

Many obscure conditions exist in which intestinal intoxication and faulty metabolism of the food elements is diagnosed. Before a positive diagnosis can be made, if a luetic basis is suspected a Wassermann or Noguchi reaction may be required.

The longitudinal sinus is also adapted for the abstraction of blood as in venesection during convulsions. The relief afforded by this means is rapid and does not produce shock. Intracranial pressure can be relieved quickly and this method of lo-

*By Louis Fischer, M. D., New York. (Presented to the Section on Diseases of Children, American Medical Association, June, 1918).

cal depletion serves as well as a lumbar puncture. It is a most convenient place to give salvarsan injections. In septic diphtheria where rapidity of action is necessary to bring the antitoxin into the circulation, the sinus route is indicated.

In hemophilia, Peterson reports six transferred cases, one of these through the sinus route with excellent result. As a hemostatic, human blood acts in many instances rapidly—almost specific. In a hemophiliac infant following circumcision, two ounces of blood injected into the sinus checked the hemorrhage within twenty minutes, although the infant had bled for four hours prior to this treatment. In another case of continued hemorrhage following an excision of cervical glands, post operative treatment was unavailing until one ounce of human blood was injected by the sinus route.

Dextrose solution may be injected by this route. Sodium bicarbonate solution may also be injected in cases of acidosis. Normal saline solution and steril serum may be injected during or following atrophic conditions due to enterocolitis. Such injections may be repeated once in twenty-four hours without producing shock. The first injection of 100 centimetres may be followed by one of 150 cubic centimetres and later 250 cubic centimetres may be injected every twenty-four hours until good stimulation is produced.

The shock incident to the exposure of a vein, and the loss of time are factors which one must bear in mind when an easier, safer and more rapid method offers itself. The risk of infection if one exposed the jugular, femoral or median basilic vein must not be overlooked, especially in the weakened and puny infant.

Technique.—The infant should be wrapped in a mummy bandage, well pinned so that the arms and legs are confined, and placed flat on its back on a table. The head should be steadied on both sides by an assistant while the needle is inserted into the sinus. Anatomically the sinus does not vary. It grows wider towards the back of the head, hence, we should always utilize a point as far posteriorly as possible. As the needle is pushed through the posterior angle of the fontanel it should be directed downward and backward in line with the sagittal suture. The landmarks are positive, and with but little practice we cannot fail to enter the sinus.

As the sinus lies very superficial we need not go deeper than 1 or 2 millimetres. For this purpose a needle one-half inch long of a 20 to 22 gauge with a sharp

point is best adapted. For withdrawing blood a Luer or Record syringe should be attached. As the needle penetrates the sinus resistance is lessened, and we encounter the same sensation which we feel when the needle enters the dura in doing a lumbar puncture.

We are now ready to aspirate sufficient blood for diagnosis purposes, or to transfuse the required quantity of blood or medication. As there is negative pressure within the sinus, before injection, it is better to withdraw blood, thus making sure we are actually in the sinus. The fluid is best given by gravity. A cylinder with a capacity of 30 to 100 cubic centimetres may be used. One end of a piece of rubber tubing is attached to the cylinder and the other end has a connecting tip which fits into the needle. It is of advantage to have a stopcock either at the end of the cylinder or near the end of the tubing. The needle is inserted with a small syringe attached. By slight aspiration one can determine whether the sinus which has been filled and the air expelled, is connected. Air pressure in the tube should be released by detaching the syringe before the needle is withdrawn.

Immediate Intervention in Wounds of the Heart.—Constantine and Vigot (La Presse Medicale), report two cases of wounded heart recovering after prompt intervention. The first case was one of a deep, non-penetrating wound of the left ventricle. The projectile was found lying loose in the pericardium. The foreign body was removed and the wound of the heart sutured. Convalescence required but fifteen days. The second case was one of wound of the left auricle, which was sutured. Subsequently it was complicated by hemothorax, which became infected. The cavity was sterilized by the Dakin solution. The patient was discharged cured in seven weeks. The missile was located by an X-ray in the left lung.

The reports regarding symptomatology support the statement that the diagnosis can be established in wound of the heart by the absolute immobility of the cardio-pericardial shadow as seen by the radioscope. This immobile shadow indicates a hemopericardium. Thorough exposure of the heart was accomplished by section of the sternum. The flap may be made by transverse section of the sternum with partial resection of its left border, including the cartilage of the third, fourth, and fifth ribs, or the pedicle may be made to the left, including the third, fourth, and

fifth cartilages, and the entire sternal segment corresponding to these cartilages. It gives a splendid exposure.

Dysentery Bacilli: the Differentiation of the True Dysentery Bacilli from the Allied Species.—Andrewes, in *The London Lancet*, has examined upward of one hundred strains obtained from France and from dysentery hospitals in England with a view to determining the significance of the atypical forms frequently met with in the bacteriological examination of cases of suspected dysentery. He points out that although the short study made of the dysentery group is incomplete, it has been thought advisable to bring forward the conclusions which seem to emerge at this stage, not only for the assistance but more for the criticism of other workers on the subject. Should the conclusions be confirmed by others a distinct step in advance will have been made, since it appears that a large proportion of the forms which have masqueraded as atypical bacilli can readily be distinguished by appropriate tests. Andrewes points out that the great majority of such atypical forms fall into three species or groups of species, and for these he suggests the provisional names of *B. ambiguus*, *B. alkalescens*, and *B. dispar*, or lactose fermenting forms. The first two species may be rejected as having nothing to do with dysentery; *B. alkalescens* was found to be devoid of pathogenicity and *B. ambiguus* of low pathogenicity for the rabbit, although the experiments made were too few in number to be conclusive. In regard to *B. dispar* the author believes that more work is necessary; he found that these organisms possessed considerable pathogenic power for the rabbit, although their relation to human dysentery is yet unproven. There is a general belief that the lactose fermenters can be excluded in dysentery work, and Andrewes believes this is probably so; at any rate, they cannot be returned as dysentery bacilli. A certain proportion of aberrant forms still remain to be accounted for and some of these may really be atypical members of the Flexner-Y group, but such a residue would be very small. The acid-agglutination test, being both simple and rapid, Andrewes believes to be of great practical value in routine laboratory work. He thinks it hardly too much to say that it will do what no one specific serum can do, and that the margin of error is perhaps less than when even a number of specific sera are used. He further makes the following comments. Before return-

ing a dysentery bacillus as inagglutinable it is always desirable to pick out a colony, pass it through a few daily subcultures in broth, and then formalinise the last broth culture and keep it for a few days in the cold. Some strains, which at first agglutinate poorly, come down freely after such treatment. Again, in returning a bacillus as agglutinable it is desirable to state whether it agglutinates to the full titer of the serum or only to half or a quarter titer. In order to do this it is necessary for the worker to have tested for himself the titers of the sera which he uses by the actual method that he is accustomed to employ. A given serum will differ widely in the results it yields with varying techniques and the titer stated on the bottle may give an erroneous impression. The method employed should be mentioned in the returns. Finally it is greatly to be desired, in the case of all doubtfully pathogenic forms isolated from cases of suspected dysentery, that careful observations should be made on the agglutinating power of the patient's serum upon the organism isolated as this is an important link in the chain of evidence.

Heart Failure and Pregnancy.—MacKenzie, in *The London Lancet*, asserts that the part played by murmurs in relation to heart failure is limited to the fact that the presence of a murmur may indicate occasionally that the heart has been damaged by some process. As he has said, such murmurs are few and practically limited to those characteristic of mitral stenosis and aortic regurgitation. It follows that the great majority of systolic murmurs in whatever area they are heard throw no light on heart failure, and are of no significance. In the few instances when they may be helpful as evidence of a damaged valve the final decision will depend upon the manner in which the circulation is maintained.

Heart failure is essentially a question of myocardial efficiency. The writer is accustomed to describe the force possessed by the cardiac muscle as of two kinds: a force which maintains the circulation when the body is at rest—the rest force; and a force called into play when effort is made—the reserve force. Heart failure begins by the diminution of the reserve force, and is made manifest by a limitation of the power of the heart to respond to effort. All failing hearts show a limitation of the field of cardiac response—the first sign being the patient's consciousness that certain efforts which

he used to undertake with ease and comfort now give rise to distress. But healthy hearts may show these signs when there is the added burden of pregnancy, for the condition then resembles an individual undertaking an effort with an impaired heart. It is necessary to bear this point of view in mind, because many practically healthy hearts burdened by pregnancy show distinct signs of inefficiency, and yet there is no danger. The notion that the left ventricle hypertrophies to meet the burden of pregnancy is not based upon trustworthy evidence. What does happen in every woman is a limitation of the heart's power to respond to effort—a diminution of the reserve force, greater in some cases than in others. A careful investigation which Mackenzie carried out in 100 women before pregnancy, during pregnancy, during confinement, and the puerperium, showed no evidence of that hypertrophy which is supposed to meet the increased demands, for the increased demands were only met by calling upon the reserve force. As the growth of the abdominal tumor proceeded the diaphragm was pushed up, the sides of the chest widened, and the heart was displaced upward and to the left, so that the apex beat was frequently felt in the fourth interspace outside the nipple line. With the emptying of the uterus the heart shifted to the normal position.

It is necessary to bear these facts in mind when the question arises how to deal with a woman who has become pregnant and who is supposed to have some heart failure.

While the exhaustion of the reserve force gives rise to the same symptoms whether it is a healthy heart overburdened or a heart failing from disease, it is the extent to which the signs of cardiac inefficiency go and the progress of the failure which serve as a guide. The most striking phenomena of the progress of heart failure are the onset of dropsy, breathlessness gradually increasing till the patient has to sit up, edema of the lungs, and persistent increase of rate or violent beating of the heart on exertion.

In regard to dropsy there is this to be remembered, that it frequently occurs in pregnancy from other causes than heart failure—in kidney affections, and from pressure of the uterus upon the abdominal veins. When it is present it must not of itself be taken as an indication of a failing heart, but only when there are present the other symptoms of heart failure. It is unnecessary to insist upon orthopnea. When this stage is reached in

heart failure the sooner premature labor is induced the better. Edema of the lungs is probably the most reliable guide. When carrying out his investigations it was Mackenzie's custom to begin the examination of the patient by finding out on which side she lay, and then get her to sit up, and auscultate the base of the lung on that side. In many healthy women he found during the later stages of pregnancy that the first deep inspiration was accompanied by numerous crepitations, and that the inspiration dispelled them, so that they were not heard after. In cases that did badly these crepitations did not disappear, but tended to persist, so that their continued presence, coupled with an impaired percussion note, is such a grave sign as to indicate the need for terminating the pregnancy.

Termination of the pregnancy is indicated in mitral stenosis when edema of the lungs persists in spite of sitting up in bed or when the heart-rate is persistently over 100 with violent palpitation on the slightest effort. The dangers in aortic regurgitation are so great and yet so difficult to anticipate that the author would recommend the termination of pregnancy in all cases with a "Corrigan" pulse, and when there is a distinct forcible apex-beat outside the nipple line.

Treatment of *Entamoeba Histolytica* "Carriers" With Emetine Bismuth Iodide, With a Comparison Between the Keratin-Coated Tablets and Salol-Coated Pills.—Lillie and Shepherd (Journal of the Royal Army Medical Corps), give these conclusions:

1. (a) That "carriers" of *E. histolytica* who had not had any injections of emetine hydrochloride were cured to the extent of 78 per cent. by two courses of the salol-coated emetine bismuth iodide pills. (b) In the case of men who had had emetine injections 72.8 per cent. were cured by two courses of the salol-coated pills. (c) In the case of men who had not had emetine injections 70 per cent. were cured by two courses of the keratin-coated tablets. (d) In the case of men who had had emetine injections 45.4 per cent. were cured by two courses of the keratin-coated tablets.

The difference between the percentages in (a) and (b) are within the range of experimental error and need not be considered. But in (c) and (d) the difference is too great to be ignored.

This difference may be due to the variation in the quality of the keratin-coated tablets, but such a defect would be com-

mon to both cases which had received injections of emetine and those which had not.

It is generally admitted that certain "carriers" of *E. histolytica* are not cured by emetine in any form, and it may be, as Mr. Dobell suggests, that these cases became segregated in (d). It seems possible that the difference in the two percentages may be due to the injections of emetine rendering the "carriers" less liable to be cured by emetine bismuth iodide.

For comparison with the above percentages of cures by a maximum of 72 grains of emetine bismuth iodide carried out in the special ward, the writers give the number and percentage of cures in the other wards of their hospital.

The number of grains of emetine bismuth iodide which these cases received varied from 36 to 200. A case was regarded as cured after not less than five negative examinations over a period of not less than five weeks after the end of treatment. The last test was made at the Barton Convalescent Depot. Out of 160 cases treated 142 were cured—i. e., 88.7 per cent.

2. There is no evidence that the length of time between the dates of onset of dysentery symptoms and the treatment has any effect upon the chances of cure by emetine bismuth iodide.

3. There is no ground for the belief that the vomiting diminishes the chances of cure by the emetine bismuth iodide treatment. There is nearly as much vomiting among the cases which are cured as among those which relapse.

4. The age of the patient has no effect upon the chance of cure by the drug. But there is evidence to show that men over forty years of age vomit less while undergoing treatment.

5. The salol-coated pills are a distinct improvement upon the keratin-coated tablets from a curative point of view. They also cause less vomiting and loss of weight.

A Method for Efficient Drainage of the Knee-Joint.—Colonel A. W. Mayo-Robson says septic inflammation of the knee-joint is one of the most serious and anxious conditions that the surgeon can be called on to treat.

The chief danger arises from the character and shape of the knee-joint with its various recesses and pouches, rendering efficient drainage in the ordinary position absolutely impossible.

With the limb in the usual dorsal position, the deepest part of the synovial

cavity is in front of the popliteal space, much below the level of the suprapatella pouch. Drainage is at present practically always effected by inserting a tube or tubes into the pouch above the patella, leaving much of the septic contents of the joint behind and between the femur and tibia with a tendency to make a way for itself to the surface by burrowing backwards into the popliteal space or along the course of the tendons in that region, upwards into the thigh, and downwards into the leg, or in both directions; this at the same time leads to septic absorption and blood poisoning from the imperfectly evacuated joint. Thus, in order to save life, the limb or the joint has not infrequently to be sacrificed.

Now, by changing the position of the limb, it is possible to make the suprapatellar pouch the dependent part of the joint, when by the very simple operation of inserting a tube into the top of the pouch the whole joint can be completely evacuated and purified, and if this is done sufficiently early, a speedy recovery may be anticipated with the joint mobility unimpaired.

Two changes of position will make the suprapatellar pouch dependent:

(a) The vertical position of the limb at right angles to the body with the patient in the dorsal decubitus, or

(b) The prone position of the body with the foot of the bed well raised.

In both positions the limb must be efficiently fixed on a splint, as fixation in inflammation of the knee-joint is only second in importance to drainage.

The first position can be easily maintained by a horizontal bar of wood arranged over the top of the bed, to which the limb is suspended by a pulley and weight. In this position dressings are easily carried out without moving the limb, and the pulley and weight enable the patient to be raised in bed for the use of the bedpan without pain or disturbance of the joint or dressings.

If for any reason the vertical position is inconvenient or difficult to carry out, the prone position can be adopted, the foot of the bed being raised and the limb slung from above by pulleys and weights for the thigh and leg.

This position also makes the suprapatellar pouch the dependent part of the articulation, and enables the joint to be completely evacuated of its fluid contents through a tube inserted a little way into that pouch.

As the prone position is irksome if prolonged, the patient, when once the joint

has been emptied, may, if necessary, be turned on to his back, and the prone position adopted for from half an hour to an hour every four hours at first, and later about three times in the day, until the drain can be dispensed with.

When once the joint has been thoroughly evacuated of its septic contents, and if needful gently washed out with warm normal saline solution, the synovial membrane of the knee, like the peritoneum, is capable of taking care of itself. Long-continued drainage is very seldom required, and usually a movable joint will be obtained.—Brit. Med. Journal.

The Administration of Large Doses of Quinine and Adrenalin by Hypodermoclysis in the Treatment of Malaria in Troops.—Pende, in *The London Lancet*, who has used for more than ten years a method of treating malaria which he strongly recommends as effecting both a "therapia magna sterilisans" and an economy in the use of quinine. Subcutaneous or intramuscular injections have frequently failed to triumph over the infection even in doses of one gramme repeated daily for 20 to 30 days, whereas his method, which has nothing to lose in comparison with the intravenous by way of rapidity and certainty of action, has the advantage of being able to introduce into the circulation a larger quantity of quinine without any danger, and thus of paralyzing to the utmost the vitality of the most resisting forms of parasite, even when entrenched in the depths of the various viscera.

The method consists in a hypodermoclysis, repeated every five or six days for four or five times, of 250 grammes of physiological salt solution, to which are added two grammes of bihydrochlorate of quinine, and half a cubic centimeter of 1-in-1000 solution of adrenalin. The technique is very simple, the middle of the anterior external part of the thigh being selected as the most favorable site for the injection, and the fluid, being held about 6 feet above the leg, penetrates the tissues in ten to twenty minutes and causes no pain. Absorption is rapid, as the drug can be detected in the urine about an hour afterward. The first injection is given, if possible, six or seven hours previous to an attack, and is followed by a second in 15 to 24 hours; on the fifth to sixth day a third is given, and after a further five or six days a fourth, always in the same dose of 2 grammes, equivalent to 1.60 grammes of pure alkaloid. A week after the fourth injection quinine is given by

mouth in doses of 2 to 3 grammes a day in six to nine powders, for two days in succession every week for a couple of months, arsenic and iron being given on the intervening days. The effect of the treatment is that in the majority of cases the temperature falls completely, sometimes with a rapidity very striking in severe forms which have resisted previous treatment by quinine by the mouth or ordinary hypodermic injection. Sometimes there is a modified abortive attack one or two days after the second hypodermoclysis, followed by complete apyrexia. After about three months a perfect clinical cure results.

He considers that the results would be still better, and reduce to the minimum the probability of relapses, if the treatment could be always applied in the initial attack of a malarial infection—that is, before the formation of quinine-resisting gametes. There appear to be no contra-indications to these heroic doses of quinine in subjects free from organic disease of the circulatory system or kidneys. No traces of albumin are to be found in the urine, while the addition of adrenalin serves to counteract vasomotor collapse which might be apprehended from such large doses of the alkaloid in subjects specially predisposed to vascular atony.

Entamoeba Histolytica Infections.—MacAdam, in *The London Lancet*, emphasizes the point that the present therapeutic measures which are recognized as efficient in the treatment of acute amebic dysentery have not proved of similar service in the elimination of the entamoeba and its cysts from the intestine.

It is now recognized that hypodermic courses of emetine are not sufficient to rid carriers of their infection. This is borne out by an analysis of some of his figures. A comparison was made between the number of emetine-treated cases among the histolytica carriers who gave a history of dysentery, but had not recently suffered from the disease, and among the emetine-treated dysentery convalescents. Out of the 49 carriers with a more or less remote dysenteric history it was possible to obtain details in 44 cases, and of these only 7 had had emetine at some time or other; while of the 38 patients recently discharged for and "cleared" from dysentery, a record was obtained in 35 cases, and all except 5 had been on emetine treatment of varying amounts. As these two sets of carriers formed 19.9 per cent. and 19.4 per cent. of the total number of

men examined in their respective classes, it does not appear as if emetine had had much effect in diminishing the persistence of those cystic infections. Of course, it must be admitted that in many instances emetine appears to have been administered in a somewhat casual fashion, frequently in a 4- to 6-grain course at a time, and very few of the cases appear to have had a continuous course of 12 one grain daily for twelve consecutive days, nor is there any record of oral administration of ipecacunha or emetine. Still, a certain number of those men who have had 10 to 12 grains of emetine hypodermically, 20 grains in some instances, occurs in this batch of carriers, so that his deductions are in agreement with the consensus of opinion that the hypodermic administration of emetine alone, although immediately alleviating the dysenteric symptoms, tends only in a small degree to reduce the persistence of histolytica infections.

Treatment with emetine bismuth iodide is still on trial, as is also the combined oral and hypodermic administration of emetine.

Transplantation of Benign Tumors.—

Loeb and Fleischer (Jour. Cancer Research), give the results of some extended experiments. The transplants were carried to the second and third generations whenever possible. Both auto- and homoiotransplantation were employed in each tumor studied. The writers, at the outset, found themselves facing difficulties which they resolved into three general questions. These may well be stated, and, with each the data resulting from their work. Primarily, their previous experience in the study of cancer led to a comparison between the growth of this tumor and the benign forms, under experimental conditions. They demonstrated that, like the malignant tumors, the benign forms can be transplanted through several generations, during which process they show both gross increase in size and microscopic evidence of proliferation. While this is true they also found that though malignant tumors increase in growth energy, possibly directly due to stimulation of tumor cells by the conditions of transplantation, benign tumors decrease in growth energy. This is apparent in the greater latent period seen in each generation of transplants over that preceding, as well as in the microscopic evidence of definitely slower proliferation. The benign tumors, whether

because they are less embryonal, or contain more fibrous tissue, or are better able to vascularize themselves, have been found to be more resistant to transplantation. Also, the growth is frequently better in case a benign breast tumor is transplanted into a pregnant animal. Malignant tumors as well as embryonal tissues are found to be difficult or impossible to transplant into animals in pregnant state. This then brings up the second question, How does the growth of benign tumors compare with that of normal tissues? Craster has demonstrated that transplanted skin soon regains its equilibrium and does not undergo progressive growth. Later transplants were found to grow better than early ones, suggesting that the mere operative trauma incident to removal of the tissue for transplantation had in some way stimulated growth energy. In regard to the increased growth manifested in benign breast tumor transplants with the occurrence of pregnancy, the authors are convinced that this phenomenon is due to a specificity in reaction of this tissue similar to that seen in the normal breast under like influences, and due to a definite chemical constitution of the tumor tissue. It is admitted, however, that in one instance the best growth in the second generation was obtained in a male rat. This almost seems to destroy the only theory offered, and rather to suggest simply the influence of chance in the growth of transplants. Lastly, to the question whether it is easier to bring about by experimental means the transformation of a benign into a malignant tumor than to effect a similar transformation of normal tissue, little can be given. The author suggests that growth energy in benign tumors should be studied with the aim of producing an increase in this quality. Up to the present, the decreased growth energy demonstrated in the transplantation of these tumors gives little encouragement to the prospect of inducing malignant change in benign tumors.

The Focal Pulmonary Tuberculosis of Children and Adults.—

Opie (Jour. Exper. Med.), examined fifty adults and found evidence of tuberculosis infection in all of them. Approximately one-half of all adults have encapsulated lesions of the lungs or bronchial lymphatic nodes, whereas in one-third pulmonary and lymphatic lesions are firmly calcified and completely healed. Tuberculosis pulmonary lesions of adults who have died of

diseases other than tuberculosis are of two types: (1) apical tuberculosis similar to the usual type of fatal phthisis and unaccompanied by caseation of the regional lymphatic nodes; (2) focal tuberculosis not more commonly situated in the apices of the lungs than elsewhere and accompanied by caseation (or calcification) of the adjacent lymphatic nodes. Focal pulmonary tuberculosis of adults is identical with the tuberculosis of childhood. It occurs in at least 92 per cent. of all adults. It may be acquired between the ages of two and ten years but in more than half of all individuals (in St. Louis) makes its appearance between the ages of ten and eighteen years. Tuberculosis of children does not select the apices of the lungs, is accompanied by massive tuberculosis of regional lymphatic nodes, and exhibits the characters of tuberculosis in a freshly infected animal, whereas tuberculosis which occurs in the pulmonary apices of adults has the characters of a second infection. Almost all human beings are spontaneously "vaccinated" with tuberculosis before they reach adult life.

Extraction of Foreign Body From Brain.

—Rayner and Barclay (British Medical Journal), report a case of successful removal of a long retained foreign body in the brain, and describe an improved extractor for such a purpose. The main part of the instrument is made like a pair of dental forceps, the jaws of which remain about one and a half inches apart when closed. Above and parallel to these is a small fluorescent screen, while attached to them at right angles are two narrow beaks or blades which meet at their points. One of the blades is slightly longer than the other, and into it is let a small fibre insulating block. The point of the longer blade is rounded for brain work. The blades are connected with an electric bell through a specially fitted relay to prevent stimulation of the structures. When the two blades are brought into contact with the foreign body the bell rings. Then if the blades are raised slightly, opened and pushed back again, the foreign body will be grasped between them without the inclusion of any tissues. In use the patient is protected from the X-rays by a sheet of heavy ray proof rubber having a three inch hole in it, the body is localized exactly on the screen so that it lies between the shadow of the tips of the blades, and the insertion of the blades is begun exactly over the shadow of the body, and continued in the direct

line of the rays. A stronger instrument is useful for the extraction of bodies from tissues other than the brain. The instrument is useful only in cases in which direct access to the foreign body can be had through soft structures and where the foreign body is not surrounded by old and dense fibrous tissue.

Intermittent Closure of Amputation Stump Wounds.—Chaput (Bulletin de l'Academie de Medicine), in cases of amputation through diseased tissues, or in which infection of the stump has occurred, everts the flaps during the daytime and brings them together at night. The eversion consists in seizing the subcutaneous tissues with forceps, reversing the flaps toward the root of the limb, and fastening them to the mattress or bedposts with cords tied to the hemostats. The stump rests on aseptic compresses, and is exposed to the air, under a tent, throughout the day. For the night the flaps are brought down over the bone, filiform drains or sheet rubber placed under them, and the flaps maintained in good position by adhesive strips, some disclosed circularly and others vertically in U fashion. When the infection has been overcome, the flaps are no longer everted in the daytime; the adhesive strips are left on permanently, and continuous extension on the circular strips instituted. With this procedure, healing is usually complete in fifteen to twenty days. The stump is rapidly disinfected, and remains in excellent condition. No reamputation or bone shortening, which too often leads to reinfection, great delay, and further shortening, is necessary. The intermittent method is indicated in all severe stump infections, and whenever it has been impracticable, for lack of time or because of contusion or threatening gangrene of the tissues, to close the wound. It is likewise indicated in certain patients with constitutional or other deficiencies that favor prolonged suppuration in wounds. It can not be applied in circular amputation or where the flaps are very short; in such instances one should amputate again higher up, and practice intermittent closure where failure of immediate union is apprehended.

Do Moving Pictures Injure the Eyes?

—Bahn (Annals of Ophthalmology), arrives at the following conclusions: Moving pictures, under favorable conditions, do not cause as much fatigue as the same period of concentrated reading. Most

persons who complain that moving pictures cause ocular discomfort have some ocular defect. Moving pictures, under favorable conditions, act as a slight test of distance eye endurance. A person with no defect of the sight mechanism should be able to enjoy at least four sittings of one and a half hours each a week with no discomfort. Under unfavorable conditions moving pictures cause increased fatigue which, if continued, produces symptoms that are unpleasant and may be harmful. By staring fixedly at one object on the picture for a prolonged time, fatigue is greatly increased and unpleasant symptoms are produced. A person should not stare at any one object, but should try to look at different parts of the screen, and should either close the eyes or look about the theatre for a few seconds about every five minutes. Every person has an individual standard of eye endurance. When your eyes become fatigued in a picture theatre, leave. Within bounds either your eyes or the pictures are at fault. If the pictures, go where they are presented under more favorable conditions; if your eyes, see an oculist that he may study and eliminate the cause. A review of the literature to date records no permanent harm to the eyes from moving pictures. The fact that ten million persons enjoy moving pictures daily with no definite reports of specific harm or injurious effect, and with but few complaints of slight inconvenience, proves that the moving picture can have no injurious effect upon the eyes.

Bouchon's Method of Wound Treatment.—

Lestrade (Presse Medicale), lays stress on the advantages of Mouchon's procedure in certain severe wounds. Thus, one case had an extensive shell wound of the left wrist, with section of the flexor tendons, the median nerve, the ulnar artery, the flexor thumb tendon, and the muscles of the thenar eminence; also fractures of the trapezium and trapezoid bones and exposure of the second series of carpal bones. The tissues were excised, but the wound "fixed" by a solution of formaldehyde, followed by irrigation with Javel's solution. Within ten or twelve days, granulations appeared, and in a month and twelve days after the injury the wound was three fourths healed and covered with epidermis. The second case had a large shell wound of the outer aspect of the right calf, with section of the tibial artery and the musculocutaneous nerve. Most of the muscle tissue of

the part was torn to bits. Contused tissues were excised, but next day local gangrene appeared and formaldehyde solution, followed by Javel's solution, was used. Three months later the wound was completely filled up and for the most part covered with epidermis. The Bouchon method, rapid, simple, and certain, is particularly indicated in greatly shocked patients who could not withstand a long operation under anesthesia. It may also be used in wounds that are difficult to reach and expose. In cases such as those described, it greatly facilitates conservation of an injured extremity.

Motor Jacksonian Epilepsy Among Men Wounded in the Rolandic Region.—

Meige and Athanassio-Benisty (Presse Medicale), class as related to typical Jacksonian epilepsy, which, while at times purely motor, is generally both sensory and motor, certain motor manifestations very probably of epileptic nature. In a first group of cases these motor disturbances appear in the intervals between typical Jacksonian seizures, and consist of slow or sudden movements of pronation or supination of the hand, flexion of one or more fingers, etc., or paroxysms of trembling in a limb or the entire half of the body, preceding the epileptic seizures by a few days, or occurring after fatiguing exertion or some emotional strain. A second group exhibit certain continuous movements, either as equivalents of true epilepsy or in subjects wounded in the head but free of typical epilepsy, or in subjects wounded in the head but free of typical epilepsy. These manifestations comprise a rapidly executed tremor occurring especially in the distal portion of an extremity and made worse by fatigue and exertion; movements of one or more of the fingers which form the starting point of the Jacksonian attacks, sometimes simulating, at a slower rate, the tremor of paralysis agitans, and finally, choreiform movements. A third group includes those the authors have previously described under the term Jacksonian paresis, exhibiting a sudden and transitory paresis, either of a single extremity or, more frequently, of both the lower or the upper limbs. The sudden paresis is nearly always accompanied by loss of warmth in the involved extremities, which may become purplish or asphyxial in appearance. This last disturbance would seem to be of a vasomotor nature.

Serum Dosage in Diphtheria.—Comby (Presse Medicale), warns against hesitation and delay in the treatment of diphtheria by antitoxin. Often, in insidious forms of the disease, the child has already been ill three to five days before the physician's initial visit, and even then the physician will frequently withhold specific treatment another day while awaiting a positive bacteriologic diagnosis. In severe cases the amount of antitoxin administered is often unwarrantably small, through apprehension of anaphylactic manifestations in Comby's experience has been but fifteen per cent., but even if this ratio were exceeded, the resulting erythema, urticaria, arthralgia, or fever are trifling and ephemeral, and death from this reaction never occurs. A mere suspicion of diphtheria indicates immediate serum injection, without waiting for the results of the bacteriologic examination. Even in subjects who have previously received serum, a large dose—never less than twenty mls of the French official antitoxin, should be given at the start. In severe or tardily treated cases, the dose should be from forty to 100 mls, to be repeated within twenty-four hours if necessary. A child of three years, seen on the fourth day, received 120 mls in thirty-six hours, and a girl of fifteen, 600 mls in the course of a few days. Under such doses the throat and nasal fossae rapidly clear and apparently hopeless cases recover. Serum reactions seem less frequent and marked after large than after small doses. Large doses, moreover, are therapeutically allsufficient, rendering throat irrigations and applications, with the attending discomforts in small patients, quite superfluous.

The Intravenous Injection of Arsenobenzol in Concentrated Solution.—Faire and Marsia (Presse Medical), say that they have given 3,150 injections of neosalvarsan or novarsenobenzol Billon, dissolved in an amount of water never exceeding 2 c. c. They found that novarsenobenzol dissolved very quickly by the addition of the water to the drug contained in the ampoule and gently shaking it until completely dissolved. Neosalvarsan did not dissolve so readily and they advise that care should be taken to distribute the neosalvarsan in a thin layer over the lateral walls of the ampoule by tilting the ampoule and gently rotating it. This simple manipulation prevents the formation of a semisolid mass at the bottom of the ampoule and allows

the drug to go easily into solution. Distilled water was usually used to make the solution, but when it was not available, boiled filtered water was used without producing any untoward reaction. The authors state that the concentrated solution is perfectly well borne and they have not observed any vein irritation produced by the injections. Inflammatory induration has occurred due to leakage from the vessel into the surrounding cellular tissues but is not more marked than that occurring from much more dilute solutions. General reactions were usually not observed; in a few instances very mild general reactions followed the injections.

Nervous Form of Endocarditis Lenta.—Claude (Bulletin de l'Academie de Medicine), reports the case of a young man of eighteen suffering from marked anemia, lassitude, and a temperature ranging between 38 deg. and 39 deg. C., with a slight systolic murmur at the apex. Six months before he had developed severe chorea, which had lasted over two months, then gradually lessened, while leaving him in a weakened general condition. Two weeks after admission in the hospital, he had pain in the left hypochondrium, the spleen became palpable, and a rise in temperature to 39.8 deg. took place, with rigidity of the neck and spinal column. Next day the meningeal signs grew more marked and an attack of rightsided hemiplegia occurred, with increasing alternate paralysis of the facial nerve on the right and the trigeminal on the left. The patient remained semicomatose for about three weeks, then seemed distinctly better for a few days. At this time repeated lumbar punctures showed increase of albumin in the spinal fluid, with polynucleosis and later lymphocytosis. High fever set in, soon terminating in complete cachexia and death. Postmortem, the mitral valve and left auricular wall showed abundant vegetations containing grampositive streptococci. The nerve centres showed a slight meningocortical reaction, and in particular a small focus of softening in the left pontocrural region, adjoining an arteritis of the basilar trunk. Sections of this and other arteries revealed local ectasias of the arterial walls due to infectious arteritis. Multiple infarcts in the spleen were also found. The chorea and meningeal symptoms in this case are alike ascribed to the special streptococci infection which had given rise to the heart

lesions. Along with the frequent embolic complications of endocarditis lenta, a definite role in the production of complications should be recognized for infectious arteritis with local ectasias, as illustrated in the present case.

The Tuberculous Army Recruit—Gaffkin (British Jour. of Tuberculosis), while serving at a rest station behind the lines, made careful chest examinations of a large number of cases sent back for various minor ailments. During a period of four months he found the complete clinical picture of pulmonary tuberculosis in 1.9 per cent. Of these cases only a small fraction, about one-fifteenth, gave a history of previous tubercular disease. The conclusion is drawn that, as all these had been picked men, passed as fit for general service, a large proportion must have developed clinically observable phthisis during their service. This directly contradicts those who assert that the outdoor life of the soldier, the abundance and excellence of many rations, the regular hours and discipline of army life might be regarded as providing an excellent set of conditions for the recruit who shows signs of pulmonary tuberculosis either latent or arrested. The factor which outweighs all these is, according to the writer, the absence of rest. There is no rest in the trenches, and even when the unit leaves the trenches there is no adequate rest. Hence the French plan is commended, that a definite history of tuberculosis, with the exception of tuberculous lymphadenitis, should be regarded as a bar to enlistment for active service.

Armour and Company Announce New Product—Thromboplastin Solution.

Thromboplastin Solution (Armour) is a specific hemostatic, made exclusively from brain tissue of cattle. In the usual routine of the abattoir, the animals are stunned by a blow on the head which produces immediate unconsciousness. This process, however, causes considerable injuries to the brain tissues, with consequent severe cerebral hemorrhage and formation of blood clots which are difficult to remove. This procedure, therefore, renders the commercial cattle brains undesirable for the manufacture of thromboplastin preparations. The material employed in Armour's Thromboplastin Solution is selected from cattle slaughtered without injury to the brains. The brain tissues are removed immediately after the brains are bled, and care-

fully trimmed, washed and cleaned. From this raw material an isotonic solution is made containing the hemostatic principles in active and stable form. The solution is standardized physiologically on oxalated blood plasma and guaranteed to be of full therapeutic strength if used within the time limit stamped on each package.

Thromboplastin Solution is useful when applied locally in the treatment of hemorrhage and especially hemorrhage from oozing surfaces, scar tissue, and nose, and in surgery of the bones, glands, nose and throat. It has proved of value in checking gastric as well as rectal hemorrhage. Thromboplastin Solution is considered an excellent hemostatic in true Hemophilia. In certain cases of dental surgery when direct application does not check the hemorrhage, the Thromboplastin Solution may be boiled and injected into the site of the bleeding. Thromboplastin Solution should be stored in a cool, dark place. Thromboplastin Solution may be sprayed on the bleeding surface or applied directly by means of gauze or cotton.

The Transmission of Plague by Bed-Bugs.—The possibility of the transmission of plague by bed bugs has long been recognized by experts. There is also no doubt that these insects can give rise indirectly to the disease, as, for example, when a bug has fed on a human case of septicæmic plague, and that if these insects ever feed upon rats or mice squashed; the contents of its stomach containing the *Bacillus pestis* may, through an abrasion of the skin of the person touching the squashed insect or its stomach contents, infect that individual.

Some interesting experiments and observations upon the subject have lately been carried out at the Pasteur Institute of Southern India, Coonoor, and published in a recent number of the Indian Journal of Medical Research. The investigators held the opinion that there was no reason why bugs should not infect themselves from human beings suffering from septicæmic plague, and that if these insects ever feed upon rats or mice they could equally well infect themselves from these animals. During the inquiry it was found that while some bugs allowed to feed on a septicæmic plague case die in a few days from the infection, others may survive as long as 38 days and the plague bacillus may be recovered from their stomachs by culture at the end of that time. Bugs, therefore, which have fed on

a patient with septicaemic plague are to be regarded as a potential source of danger. The experiments showed, too, that bed bugs cannot regurgitate, like the fleas, the contents of their stomachs in the act of feeding; so that if they ever transmit plague by biting, they must do so by washing out with their saliva the plague bacilli, which may have been stranded in their sucking tube. But these bacilli are not likely to remain in the sucking tube for long after an infected feed. It cannot, then, be said for certain as yet whether bugs can, or cannot, transmit plague by biting. It is satisfactory, however, to find that the conclusion arrived at by the above-mentioned investigators is to the effect that there is small likelihood that human plague is transmitted by bugs, biting under natural conditions.—The London Lancet.

The Administration of Bromide.—Craig, in The London Lancet, says that for many years he has been prescribing potassium bromide in very small doses, and he has found a small dose such as 5 grains once a day long continued far more efficacious than larger doses for shorter periods. In functional nervous disorders, such as neurasthenia and nerve exhaustion, and in traumatic neurasthenia, reflex irritability is one of the earliest symptoms, and as this irritability increases, so the personality of the patient becomes more and more disturbed. Now if it is possible to control this irritability, the patient may rapidly improve and may continue to work with comparative comfort. He has found from long experience that 5 grains of potassium bromide once a day will control this reflex irritability. The smallness of the dose avoids the depressing effect of the salt, and it may be taken with great advantage for many years during the active business or professional life of the individual.

On finding the value of these small doses in controlling hypersensitivity and irritability in adults, it occurred to him that still smaller doses might be of value in childhood, and the results obtained have been equally satisfactory. The excitable and irritable child wears itself out, and as it grows further nervous and mental symptoms develop. For example, many persons, including children, who develop epilepsy have passed through one or more years of increasing nervous excitability. Correct this irritability and the epilepsy is prevented. That this as he has proved in many cases; for example, he has prescribed one daily dose of 3 to

4 grains of potassium bromide for a child whom he regarded as a potential epileptic, and gradually the irritability would disappear; the dose was then discontinued under the usual belief that it was harmful to continue for any length of time, and slowly the symptoms would recur and finally culminate in an epileptic seizure. A physician need have no hesitation in keeping an excitable or nervous child on a trifling dose of bromide throughout the greater part of his school days. The potassium salt is undoubtedly more efficacious than the other salts and is not depressing in small doses. It is true that some cases of nervous exhaustion require larger doses to begin with, but it should be the aim in these cases to reduce the dose as soon as possible and then continue for years if necessary. The reason he recommends continuing for years is that once a person suffers from nerve exhaustion he will always tend to get a recurrence of his symptoms with stress and mental strain, and he finds that small daily doses of bromide are a great protective. He has never known a person suffer from taking bromide in this way, but, on the other hand, he believes that it is only too common to see patients suffering from the want of it.

Uric Acid Prevention.

Excess of uric acid in the blood or uric acid diathesis, as it is so often called, whether due to some pathological condition or from irregularities of diet or hygiene or excessive drinking, leaves a train of most disagreeable symptoms which, unless taken in hand at once, become exaggerated and prolonged.

The symptoms, ranging from the dull morning headache to the severe joint affections, require pertinent and persistent treatment, for when once the system is disarranged, the uric acid which is so hard to eliminate gradually increases.

During the process of metabolism the nitrogen is split up and excreted as urea and uric acid, the ratio between the two being about one of uric acid to fifty of urea, the normal daily limits of uric acid being between 5 and 15 grains. Thus any deviation from this normality indicates possible disease.

There is always a possibility, especially in diseases of the kidney, that the so-called normal amount of uric acid is excreted and the excess which the kidney is unable to eliminate is being backed up in the blood so that we cannot depend wholly on the urine examination, but must look for other symptoms among which Haig

speaks of increased capillary blood pressure.

Prepare the Babies for Hot Weather.

During the month of June it is not a bad plan for the physician to take mental "stock" of the babies under his care, especially such as are bottle-fed, with the general idea of recommending such treatment as will tone up and vitalize those whose nutrition may be below par, so that they may enter the trying summer months in the best possible condition to ward off or withstand the depressing influences of extreme heat or the prostrating effects of the diarrheal disorders of the heated term.

Careful attention to feeding is, of course, a *sine qua non* and the details of the infant's nourishment should be carefully investigated and regulated. But this is not all. Many bottle-fed babies are below standard from a hematologic standpoint. The marasmic anemic baby deserves special attention in the way of building up and restoring a circulating fluid which is deficient in red cells and hemoglobin. In the entire *Materia Medica* there can be found no direct hematic quite as suitable for infants and young children as Pepto-Mangan (Gudge). In addition to its distinctly pleasant taste, this hemic tonic is entirely devoid of irritant properties and never disturbs the digestion of the most feeble infant. Being free from astringent action, it does not induce constipation. A few weeks' treatment with appropriate doses of Pepto-Mangan very frequently establishes sufficient resisting power to enable the baby to pass through the hot summer without serious trouble, gastro-intestinal or otherwise.

The Disinfection of Milk.

Milk is one of the most unclean of all foods that appear on the average table, says a writer in *Good Health* (May 1918). In many cases, every drop contains a million germs, or more. Water containing one-tenth as many would be promptly rejected as absolutely unfit for use. Even "certified" milk is permitted to contain 10,000 germs to the cubic centimeter, perhaps a thousand to each drop.

These germs are the cause of diarrheas in young infants and are responsible for tens of thousands of untimely deaths each and every year.

Evidently milk needs disinfection, but how can this be done safely? Boiling destroys the precious vitamins and so is

out of the question. Pasteurizing is scarcely safe.

The fortunate discovery has been made that that remarkable oxygen compound, the peroxide of hydrogen (H_2O_2) which contains two atoms of oxygen in each molecule, double the amount contained in water (H_2O), may be safely used for this purpose. It has been found that when this wonderful compound is added to warm milk the extra oxygen atom escapes and destroys the germs. But this only occurs if the milk has not been boiled. It is necessary that the living enzymes of the milk should be present.

This process was first used in Sweden, where it is extensively employed in preparing milk for shipment to other countries. In experiments made in the bacteriological laboratory of the Battle Creek Sanitarium it was found that milk treated by this process could be kept in a room, at ordinary temperature, without souring, for more than a week.

The process is exceedingly simple. The milk is heated to about one hundred and twenty degrees. One to four drams of Dioxigen is then added for each pound of milk and the temperature maintained for about fifteen minutes. The milk is then cooled and kept on ice or in a cool place. Should there be a need for keeping it several weeks, three or four drams of Dioxigen should be used instead of one.

This plan of disinfecting milk has been in use for several years in the Children's Department of one of the largest hospitals in Chicago, and with the very best results. Many creameries are already using it to improve the keeping properties of their products. For preparing milk to take on a journey of several days this method is especially excellent.

The addition of Dioxigen does not alter the flavor of the milk and in no way injures any of its valuable food properties.

There is one point that has always to be considered and that is the fact that after the Dioxigen has been added the milk must be carefully and thoroughly agitated. It took a long series of experiments to prove that agitation was an absolute essential.

Summer Skin Troubles.

For relief from the attacks of sunburn which are so common during the vacation season, there is no remedy so promptly effective as Dioxigen, diluted with five to six parts of water. This may be applied by wads of cotton, gauze or old linen. The

affected area should be kept thoroughly wet or soaked with this solution of Dioxygen until the burning and smarting are decidedly relieved. This is often accomplished in a surprisingly short time, with the further advantage that swelling, puffing and subsequent soreness are usually greatly lessened—and often completely avoided.

Other skin afflictions such as mosquito bites, bee tsings, prickly heat, profuse and fetid perspiration, ivy poisoning, and so on, are quickly amenable to the action of Dioxygen. In these conditions it should be applied full strength, or diluted according to the physician's judgment. The effects are immediate, with gratifying avoidance of infection or inflammatory reaction.

The efficacy of Dioxygen is so pronounced in these conditions peculiar to the summer months, and in addition it is so free from any unpleasant or objectionable action, that physicians will do well to recommend that every vacationist include it in his kit. A bottle of Dioxygen has saved many a vacation from being a dismal period of discomfort and suffering.

Case of Keloid.—I have brought this case for diagnosis. This young woman says she had ulcers on both shins seven and a half years ago, and that they were preceded by a rash on the trunk. The ulcer on the right leg healed in fourteen months, leaving a healthy more or less circular scar, which is visible now. The sore on the left leg nearly healed in 18 months, but a small "pimple" was left, and this gradually increased in size to the present time. There is now a raised button-like growth about the size of a shilling on the site of the scar of the left leg. The edges are well defined and without any "processes," the skin over the tumor is slightly thin and shiny but otherwise normal, and the growth is firm to the touch, movable over the underlying tissues, and does not show any evidence of inflammatory changes. As there is a scar in a corresponding position on the opposite leg, and a history of the tumor having originated in the scar-tissue, I made the diagnosis of keloid, and I shall be glad of alternative suggestions.

With regard to treatment, I suggest radium, but it has just been suggested that the growth should be excised and microscopied. If it is a keloid, however, I doubt the advisability of excision, although I have heard it stated that if a keloid is sufficiently widely excised it does not recur.

—S. T. Dore, Proceedings of the Royal Society of Medicine.

The prevention of disease in war times becomes more important than in normal peace times. Physicians are fewer, obligations to our country are greater and good health is of paramount importance.

The typhoid infections have long been a public danger and in other times have been a serious menace to the armies in the field and camps. Now, thanks to vaccines, this dreaded scourge has been practically eliminated from the armies.

In conjunction with ordinary sanitary precautions there is no doubt but that typhoid vaccination will result in the final suppression of the disease among the civil population, which has contributed a toll of about twenty thousand lives yearly. Confidence and enthusiasm on the part of the physician in immunization against the typhoid infection will beget confidence and enthusiasm among his clientele, ultimately resulting in a lowered morbidity and mortality rate.

Eli Lilly & Company of Indianapolis recommends its Typhoid Mixed Vaccine in preference to Typhoid Vaccine, since the prophylaxis against the allied infections, para-typhoid A. and B. bacilli rests in the same measures that may be taken against typhoid. For that reason it is important that immunization be made with Mixed Vaccine.

Lilly Typhoid Vaccines are supplied in ampoule vials and syringe containers. A copy of a handy reference booklet on Biological Therapy will be sent to our readers on receipt of requests made to Eli Lilly & Company at Indianapolis.

Treatment of Gonococcal Arthritis by Sensitized Vaccines.—Haworth (British Medical Journal), thus prepared the sensitized gonococcal vaccine. A pure growth was obtained from the swollen knee-joint, the contents of which were markedly purulent. This was cultivated in blood agar at intervals of two days until good growths resulted. A series of blood-agar slopes were incubated for 24 hours. These slopes were emulsified in normal salt solution, counted, mixed with antigenococcus serum, and incubated after 24 hours; there after placed in a refrigerator for another 24 hours. Decanted, diluted with fresh normal saline; again refrigerated. This process being repeated still again, twice more, after which a solution of carbolic acid was added and there was further refrigeration for four days. The bacterial emulsion was tested

for sterility, and if found sterile was ready for use.

The first dose was 25,000,000, the thirtieth day 550,000,000; thereafter an increment of 50 million every five days. Some seventeen cases were reported, all with excellent results. The last eleven were given about twice the dose already mentioned. Only a few cases showed any reaction after administration.

Pyrogenic Therapy.—Auld (British Medical Journal), mentions the therapeutic value in cases, for instance, of chronic infection such as are clinically manifest in the form of the various arthritides of supposedly toxic origin, of the tissue changes which are either caused by a high temperature or are incidental to it. He has experimented with metal colloids, particularly platinum, as a means of producing this temperature, but regards typhoid vaccine as probably the best and most efficient pyrogenic which can be used. Nucleic acid 2 per cent. and albumose produce similar effects. From 50 to 250 million of killed typhoid bacilli are injected intravenously according to the strength of the patient and temperature. In apyrexial cases doses should be greater than in cases of pyrexia. The treatment is especially adapted to sluggish cases of localized infective diseases, with low or moderate pyrexia. Little benefit results unless the full reaction is induced, and rarely more than one injection is necessary. An overdose is indicated by dyspnea, cyanosis, and diarrhea. Nor should the injection be given while the temperature is high. Heart disease, high blood-pressure, and rigid arteries are contraindications. It is not necessary to produce shock.

The Prevention of Secondary Hemorrhage.—Leval (La Presse Medicale), classifies secondary hemorrhage as capillary that coming from vessels of small or medium size and that coming from vascular trunks. Hemorrhage from vessels of medium or large size is that which is attended by serious danger. It occurs in its secondary form from infected wounds. Secondary hemorrhage indicates inadequate disinfection of the wound and is a reproach to the surgeon who has it in charge, except in the presence of an injury to a sizable blood-vessel. He therefore strongly advises in treatment of wounds, in addition to thorough cleansing, that a systematic examination be made of any large blood-vessel or blood-vessels which may lie in the course of the

vulnerating body. He quotes numbers of instances showing that severe and at times fatal hemorrhage is traceable to an unsuspected wound, which, had it been found at the time of original surgical treatment, would have called for tying of the blood-vessel. Whilst he believes that these secondary bleedings are dependent upon infection, he points out that this infection may be so light and so well concealed that it is not suspected by the surgeon until hemorrhage occurs.

Slow Convalescence.

The strong, virile, robust individual who emerges successfully from the attack of the pneumococcus, the bacillus influenza or the mixed infection of typhoid, is more than likely to recuperate rapidly from the depressing effects of the systemic disease from which he has suffered, and his convalescence will be prompt and uninterrupted. It is not so however, with the patient, whose vital resistance was at a comparatively low ebb before the disease invasion. In such cases, tardy convalescence is the rule, unless active measures are taken to revitalize the blood and thus restore and repair the essential solid elements—the red cells, and the oxygen-carrying hemoglobin. Pepto-Mangan (Gudge), performs just this necessary service by furnishing the needed organically combined iron and manganese to build up the blood forming functions of the organism. It can also be depended upon to improve the appetite and act as a general tonic, and reconstructive, without deranging digestion or causing constipation.

After the Long School Year

the tired school child, whether girl or boy, is extremely liable to become vitally depressed, worn out both physically and mentally, and more or less anemic. With the coming of warmer weather, this depreciated condition becomes accentuated and it is the part of wisdom to take steps to build up the tone of the organism, enrich the vital fluid by creating new red cells, and hemoglobin, and employ every available means adapted to reconstruct the cells and tissues and restore the depleted vitality. Pepto-Mangan (Gudge), does yeoman's service in such condition, by furnishing an agreeable, absorbable, and assimilable organic combination of iron and manganese, the agents most needed for blood repair, and general reconstruction. It is pleasant to take, and does not irritate the digestive organs nor cause constipation.

The Morphin-hyoscin Method of Painless Childbirth—Haultin and Swift (British Med. Jour.), published their clinical experience at the Royal Maternity Hospital, Edinburgh. They make no distinction between scopolamin and hyoscin, and use the latter. They had 40 consecutive cases, and while they could not give each a separate room, they darkened the room by placing a screen about the patient and stuffed the patient's ears with cotton to prevent hearing. The first dose given was usually one-fourth grain morphin, 1-150 grain hyoscin. Hyoscin alone had no control over pain. In three cases only was the morphin repeated. In the remainder the hyoscin was repeated, the average number of injections of hyoscin in each case being eleven to twelve. The greatest number of injections in all was forty-five, which included two doses of morphin. The results were total amnesia and analgesia in 30 out of 40 cases, or 75 per cent. Because the patient could not remember the pain of labor, she asserted that she had no pain when questioned after labor had ceased. There was some effect in all the cases. In 1 case restlessness was so great that the injections were stopped. In 1 case there was postpartum hemorrhage. In 14 cases it was necessary to use forceps, and in 5 of these no chloroform was given. In the other 9 cases when the attempt was made to interfere with the patient, she became restless and it was necessary to use chloroform to apply forceps. There were 5 still-born children among 40. In one of these cases only had the labor been normal. Among 35 children born living, 4 required artificial stimulation. In using this method the writers think that in a primipara one must wait until the os admits two fingers, and the pains are regular; in a multipara the injection should be given at once. The second injection, 1-150 grain of hyoscin, is best administered an hour after the first. It is thought that this can be safely repeated at intervals of one hour or three-quarters of an hour afterward. The reader is cautioned not to repeat the morphin in the latter part of the second stage, and that if the hyoscin is not taking effect it is well to give the mother a slight whiff of chloroform so that the hyoscin is allowed to work and the patient goes again into the "twilight sleep." The patient's friends must be kept away absolutely and the room kept quiet and dark. Patients if thirsty must be given water to drink. The catheter must be used during long labors. The ba-

by must immediately be taken away after birth so that the mother cannot hear its cries, otherwise she will remember the labor. This seems a most extraordinary narration and illustrates the remarkable acumen of the scientific gentlemen who carried out the experiment and the extraordinary credulity of their patients. The percentage of forceps deliveries is that usually seen with or without these drugs, and the writers assert that they use forceps frequently. Nothing is said concerning lacerations, and the percentage of fetal asphyxiation is practically normal. The statement is made that pain is not prevented but that forgetfulness is induced, and that what one does not remember does not hurt. We have long been accustomed to look to Scotland for subtle psychology, and we welcome in obstetric practice this extraordinary contribution to the psychology of parturition. Not having the subtle intellect of the Scot, we fail to recognize its physical value.

Abuse of Milk in the Feeding of Children.—Comby (Presse Medicale), anent the existing scarcity of milk, which has given especial annoyance in Paris, takes occasion to emphasize the drawbacks of excessive use of milk in the diet of children over one year of age. To continue in a child of eighteen months or two or three years the diet consisting chiefly or exclusively of milk which is appropriate for babies six or twelve months old is to expose the child to anemia and various digestive disturbances. An infant six to fifteen months old can suitably consume about one litre of milk a day. Later, however, this amount should be considered excessive. Children of eighteen months to three years should not use more than one half litre of milk, the remaining half litre being more than made up in the bread, soups, flour, purees, eggs, etc., taken in addition. Children over three years of age can, if necessary, do without milk just as well as adults. Children fed too exclusively with milk gain weight and flesh, but their tissues are soft, the muscles lax, and locomotion retarded. The mucosae are pale and a systolic murmur may be heard over the base of the heart and the vessels of the neck. The blood shows but two or three million erythrocytes and the hemoglobin is markedly subnormal. General languor and obstinate constipation are additional manifestations of the lack of iron in the diet. Children who have been given other foods rather early do not show this anemic

state, and in the anemic, replacing part or all of the milk by other foods soon causes the anemia to disappear, especially if a few decigrams of protoxalate of iron daily are also administered. In Comby's experience daily ingestion of one to three teaspoonfuls of fresh grape or orange juice has seemed distinctly to favor the return to good general health and to overcome constipation. These recommendations as to the milk in the diet are held only to apply in normal children, and may have to be disregarded in children showing abnormalities of development or suffering from some disease indicating a milk diet.

Skin Grafting Under Septic Conditions.

—Paul Bousfield, resident surgeon of the American Women's Hospital, for Officer, London, describes a method by which he has been able to obtain successful grafts upon areas which, though "clean" to the naked eye, were still actually suppurating, dressings which had been left on for twenty-four hours showing a certain amount of pus, and even possessing an offensive odor. The following is a case which seemed less promising at the beginning than any other the author dealt with:

The patient had been wounded in the arm, the head, the back, and the left thigh. The wound in the arm had necessitated a guillotine amputation in France, which had remained septic; the wound in the thigh had been excised in France, and when I received the patient in England it consisted of an area on the posterior surface extending from two inches above the knee to the natal fold. The outer border reached to about one and a half inches in front of the great trochanter, and the inner border to within about one and a quarter inches of the rectum—an area of approximately seventy-two square inches, in which all the skin, superficial fascia, and fat had been removed and had left the hamstring muscles exposed and still in a septic condition in very nearly their whole length. On first viewing this leg it seemed doubtful whether it could be saved, especially as the wound was of such an irregular shape that a plastic operation by means of which parallel strips of skin might be brought over portions of the exposed surface was not possible.

For ten days the wound was dressed on every third day with pure sterilized liquid paraffin containing one drachm of ordinary bipp to the ounce. At the end of this period the wound was quite clean at the edges and had granulated well over the muscles; a skin graft under the fol-

lowing conditions was decided upon in spite of the fact that the dressings were still somewhat offensive.

The edges of the wound and the skin of the buttocks, whence the graft was to be taken, were sterilized with iodine; the surface of the wound itself was sprayed with zoel, made by mixing 1 pound of 78 per cent. electrolytic caustic soda ground to pass through a sieve with ten holes to the linear inch, with 1 1-2 pounds of No. 20 pure salt; to this is added 5 1-4 pounds of granulated borax and the whole well shaken together. Combination of the caustic soda with the borax takes place rapidly, resulting in a mixture (zoel) containing 19 1-2 per cent. sodium chloride, 3 to 4 per cent. of sodium diborate, and 76 1-2 to 77 1-2 per cent. of sodium monoborate. Bousfield then raised small portions about a quarter of an inch in diameter and one-sixteenth of an inch thick in the center, passed a single stitch through each graft in careful apposition and in all planted about thirty-five grafts in this way. Again he sprayed with an atomizer a solution of zoel upon the grafted wound, and then dressed the whole with gauze soaked in sterilized paraffin, so that the dressing should not dry and tear off the grafts or cause bleeding when it was changed.

The paraffin dressing was left on for forty-eight hours without removal, but was moistened from time to time with fresh paraffin in order to prevent it from sticking. At this period the dressing had begun to smell, and the edges of the dressing had become green. He therefore redressed the wound, and sprayed it again with a 2 per cent. solution of zoel, afterwards again placing over the surface gauze soaked in paraffin. This procedure was repeated from time to time on the average every twenty-four hours, and at the end of twelve days every graft had not only taken but had spread to more than twice its original area.

The success of the technique is ascribed to three outstanding conditions:

1. The fixing by means of sutures of the grafts, so that, although in an awkward position, they cannot be removed when the wound is dressed.

2. The use of liquid paraffin as a medium for the dressing, which prevents any adhesion, and hence movement of the grafts.

3. The use of an antiseptic spray which is efficient in its germicidal powers, and yet non-irritant and non-poisonous to such delicate tissues as skin grafts; this last is, without doubt the most im-

portant of the three.—British Medical Journal.

Points in the Treatment of Dysentery.

—Duncan Graham, in *The London Lancet*, brings out some valuable points in the treatment of bacillary dysentery as the result of wide experience in the British Salonika forces. In acute and severe cases all patients are given fifteen mls (one half oz.) of castor oil on admission and, beginning eight hours later, receive eight grams (drams ii) of sodium or magnesium sulphate, which is repeated every four hours as long as the mucous stage lasts. When the mucus disappears the saline is given in just sufficient amount to secure a soft movement. Intestinal lavage with solutions of eusol, potassium permanganate, protargol, or normal saline are given night and morning if the patient is relieved by their use. Opium enemata and astringents by mouth are irrational. Antidysenteric serum should be begun at once and given intravenously. To avoid the severe primary reactions which occasionally occur two mls should be injected at once and the remainder slowly run in after an interval of ten minutes. Larger doses than usually prescribed should be used, ranging from sixty to eighty mls, and should be given twice daily. In most of the very toxic acute cases the greatest danger seems to come from dehydration of the tissues and this can be largely overcome by the use of intravenous injections of 150 to 300 mls of normal saline immediately following each dose of serum, or of five per cent. solutions of glucose in distilled water. In the chronic, mild, and mild recurrent cases, dehydration is not a factor, and these injections are not necessary. One of the most important features in treatment of all forms is the proper regulation of diet, not only during the acute stage, but also when the patient is convalescent. In the beginning it should consist of albumen water, gruels, and tea sweetened with lactose. During recovery the diet should be slowly changed to contain arrowroot, Benger's food, malted milk, sour milk, and diluted fresh milk along with the use of lactose in the foods. Progress to full diet should be made very slowly.

A Note on Serum Sickness in Cerebrospinal Meningitis.—Kerr, in *The London Lancet*, says that of a series of 48 cases of cerebrospinal fever treated with Flexner's serum no less than 76 per cent. suffered from serum sickness. The reactions were, as a rule, quite sharp and in most

cases were accompanied by considerable fever. The outstanding feature was, as usual, the rash, which often started as an urticaria and then ran into a multiform erythema. Very severe arthritis was noted in 6 cases; adenitis in 2; in 9 patients a prodromal fever occurred from twelve to twenty-four hours before the appearance of the rash and was accompanied by an exacerbation or relapse of the meningeal signs. More than two-thirds of the reactions commenced on the eighth, ninth, or tenth days after the first injection; the symptoms usually lasted several days. The author points out that the introduction of horse serum into the spinal canal is liable to set up a local reaction which may be described as an aseptic meningitis. A previously clear fluid may become turbid and a slightly turbid fluid may become more opaque. These changes are due to the presence of an increased number of polymorphonuclear leukocytes. When a spinal fluid is so changed the serum reaction and the rash usually follow within a few days, and it appears that a meningeal reaction is a prodromal sign of the more usual phenomena. Kerr finds that Fehling's solution is reduced by all the fluids that become more turbid as the result of a serum reaction. The large number of rashes in this series of cases suggests that the intrathecal injection is more liable to cause them than the subcutaneous. He does not believe that the method of administration is at fault. The doctor ascribes the large number of reactions to some peculiarity of the horses from which the serum is obtained. The occurrence of the rash is not much influenced by the dosage. He believes that many cerebrospinal patients are much improved by these injections and that they are no cause for anxiety. He suggests that the benefit may be due to some stimulus of metabolism or of the processes of repair. He believes that in cases which are apparently threatening to enter the chronic stage the improvement which follows serum sickness may be ascribed to the almost perfect counter-irritation offered by the widespread pruritic rash. Kerr does not inject serum in the presence of a serum reaction unless the diplococci in the spinal fluid appear to be increasing. The Fehling test is a useful means of determining whether a rise in temperature with an exacerbation of meningeal symptoms is caused by a serum reaction or by a recrudescence of the disease.

Influence of X-Rays in Female Pelvic Disease.—Phillips, in The London Lancet, recommends the use of X-rays in the treatment of the following classes of female disease: Uterine fibroids, metritis or myofibrosis, cervical carcinoma, before, during and after total extirpation of the uterus; certain cases of colitis; for sterilization following Caesarean section and in severe dysmenorrhea and osteomalacia; in certain constitutional hemorrhagic diseases such as hemophilia and purpura hemorrhagica; for absorption of old, chronic thickenings, and in leucoplakia, pruritus, and other diseases of the vulva. The precise mechanism of the actions of the rays is not understood, but they seem definitely to cause ovarian atrophy, to promote absorption of fibrous tissues, and to exert a beneficial effect on the uterine muscle, and they probably influence the composition of the blood. It has been urged that the rays be limited to certain classes of fibroids only, but the results seem to indicate that they should be given a trial in every case before deciding upon operation. Their use in the cases of colitis referred to is for their effects upon ovarian activity, which seems to aggravate the colitis markedly in many cases. The advantages of their use are that: The treatment is painless; it is relatively brief, taking not over three months; the menopause, when produced,

is usually symptomless; they are cheaper than operations; they can be continued during menstruation, and they have few bad after-effects. Their application should be carried out by an expert under the supervision of the gynecologist.

Gastric Irritation in the Administration of Quinine.—Ravaut (Presse Medicale), states that for two years he has been successfully using novarsenobenzol and atoxyl by mouth in amebiasis, the drugs being given in capsules so coated as to pass through the stomach without dissolution by the gastric juice. Similarly, Leboeuf has been giving the double iodide of emetine and bismuth without any trouble from gastric irritation. Recently Ravaut has begun to use 0.5 gram tablets of quinine hydrochloride coated with a protective varnish. Clinically, the results are perfect. The varnish sometimes begins to crack open after tablets have been kept three months. The author has also employed with success 0.4 gram tablets of the same salt coated with gluten. Absorption from the intestine is not hindered by these expedients, as the quinine can be detected in the urine two or three hours after their ingestion. Many patients who had previously complained of gastric disturbances and even vomiting after quinine took the tablets without difficulty.

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No. 2

CARREL-DAKIN SOLUTION AND PARAFFIN DRESSINGS IN CERTAIN CONDITIONS.

By L. W. Kornegay, M. D., Rocky Mount, N. C.

You are all more or less familiar with Carrel-Dakin Solution, if not from practical experience, at least you have read the literature which has been voluminous both for and against its adoption in general. Any preparation that is so highly praised by its advocates tempts us to give it a thorough trial before putting it aside, even though adverse criticism is severe.

Our limited experience with its use in infections has caused us to dispense with former procedure and to adopt it as a routine. Its superiority has manifested itself in every instance; although we have not obtained the brilliant results of Dr. Carrell, we have at least considerably improved in results obtained over former methods.

The Carrel-Dakin method consists in the use of a fluid hypochlorite of sodium-solution 50 per cent. strength as prepared by the formula originated by Dr. Dakin. In Dr. Keens' work on "The Treatment of War Wounds," he presents two formulas given him by Dr. Dakin, one is prepared with and the other without boric-acid, the preference seems to be given to the latter; but it is more difficult to render neutral on account of the commercial chlorinated-limes not being constant in strength. "Neutral hypo-chlorite prepared with boric-acid is best made as follows: 140 grms of dry sodium carbonate (Na_2CO_3) or 400 grms of crystalized salt (washing soda) are dissolved in twelve liters of tap water, and 200 grms of chloride of lime (Chlorinated lime) of good quality are added. The mixture is well shaken and after an hour, the clear liquid is syphoned off from the precipitate of calcium-carbonate and filtered through a plug of cotton; 40 grms of boric-acid are added to clear the filtrate, and the resulting solution is ready for use. A slight additional precipitate of calcium salts may slowly occur but it is of no significance. The solution should not be kept longer than one week. The boric-acid must not be added to the mixture before filtering, but afterwards. The solution should be tested for neutrality by adding some of it to a pinch of solid phenolphthalein. If a

red color, indicating free alkali, should develop a little more boric-acid must be added in order to remove it."

"Neutral Hypo-chlorate prepared without boric-acid is best made according to the formula given by Daufresne, and at the present time, is perhaps more generally used than any other modification. 200 grms of good bleaching powder are put in a twelve liter bottle with five liters of tap water. The solution is shaken vigorously and allowed to stand for at least six hours, unless a mechanical shaker is used, when half an hour's shaking will be found sufficient. In another vessel 100 grms of dry sodium-carbonate and 80 grms of sodium bi-carbonate are dissolved in five liters of cold water and then added to the bleaching powder mixture. The whole is shaken vigorously for a few minutes, and the precipitate allowed to settle. At the end of half an hour the clear solution is syphoned out and then filtered through paper. The proportions given above for the carbonate and bi-carbonate of soda are those given by Daufresne. It is our experience, however, that with most brands of American bleaching powder it is better to use 90 grms of each salt. This solution must invariably be tested for neutrality by adding a pinch of solid phenolphthalein to a little of the solution. If the solution should re-act alkaline one of three methods must be employed to correct it: (a) Pass carbon-dioxide gas into the solution until a sample shows no alkalinity when tested as described. This is perhaps the best method. (b) A neutral hypo-chlorite may be secured by reducing the proportion of carbonate of soda and increasing the bi-carbonate. (c) Boric-acid may be added until neutrality is secured. An advantage of the carbonate bi-carbonate preparation is that it possesses greater stability and can be kept for several weeks without much deterioration. On the other hand, with varying qualities of bleaching powder, containing different amounts of free lime, it is more difficult to adjust the proportion so as to obtain a neutral solution directly. Probably those having adequate laboratory facilities will prefer carbonate bi-carbonate solution, while the mixture containing boric-acid is readily made under less favorable circumstances."

The object to be attained is "An ideal

isotonic wound antiseptic of high bacterial and low toxic or irritating quality." Under .45 per cent. is too weak and above .50 per cent. is too strong.

The Carrel technique in preparing the wound is very thorough and complete; it consists in the removal of all debris and excision, when possible, of all mangled and destroyed tissue, placing perforated rubber tubes in wound so that all affected surface may be bathed with the solution at intervals of two hours, as its anti-septic strength is lost in a little less than two hours. Dependent drainage is to be avoided because this precludes the object desired of keeping all parts of wound constantly bathed in the solution. Every second day bacterial counts are made from smears to ascertain when the field is sterile. When the microbes are absent for three successive counts the wound is considered sterile and may be closed as if it were a clean operation with expectation of primary union. Our experience with the solution in infected wounds of all kinds has been very pleasing.

What I desire to especially emphasize is its use followed by paraffin dressings in infected burns and chronic ulcers of the leg. We have had occasion to test it in several cases and have not been disappointed a single time. The rapid cleansing and sterilizing of the wound surface, the conspicuous absence of pus after a few days, the early presence of islands of epithelial tissue over the raw surface which quickly spreads to form smooth and pliable skin without subsequent contracture, relieves us of the necessity of skin grafting. After a wound becomes a clean, granulating surface, paraffin having been applied, we allow patient to be up as the paraffin extends some distance beyond the edges on healthy skin, thus acting as a support that practically immobilizes the affected area, therefore, doesn't seem to lengthen the healing process. I wish to present four cases as an illustration of results obtained by being treated in this manner.

Case 1—Male, white, age 3 years; family history of no interest.

Present history—Clothes were burned from body two weeks previously, caught from fire under wash pot in yard. Inspection showed extensive burns over body, especially over lower abdomen, right thigh and leg extending almost to ankle, completely around upper thigh, penis and scrotum involved. When patient entered hospital was in highly septic condition, burned area covered with

sloughing gangrenous tissue, foul and fetid pus, temperature 105.4 degrees F., pulse 150. Treatment: Applied an abundant dressing of gauze and cotton over affected area, had nurse to wet same with Dakin solution every two hours, renewed the entire dressing every twelve hours. The temperature stayed up to 104 to 105 degrees F. until after the dressing had been changed three times (about thirty-six hours), then gradually subsided until fifth day was ranging from 98.5 degrees to 100 degrees F. At this time surface seemed to be free of pus and sloughs practically all away. On the ninth day dried granulating surface thoroughly and applied paraffin, changing every twenty-four hours, before re-applying would flood surface with Dakin solution and dry. After first application he would cry for it to be put back on, the only pain was experienced from Dakin solution and drying, he would invariably go to sleep immediately after the dressings. Expected to skin graft, but in few days could see islands of epithelial tissue forming over the granulating surface and within five weeks it was completely covered with good skin. Nine months since he left the hospital there is no evidence of contraction, he has a splendid result.

Case 2—Female; negro; age 26.

Admitted to the hospital for operation necrosed bone of foot. While re-acting from anaesthetic received a very bad burn on calf of leg, from hot-water bottle, about $3\frac{1}{2} \times 6$ inches in diameter. Treatment: Removed skin from blister immediately, kept saturated with Dakin solution for twenty-four hours then applied paraffin as in other case. The burn did not lengthen her stay in the hospital as it was well by the time the other wound healed.

Case 3—Female; colored; age 39; weight 200 pounds.

Was referred for relief of ulcer of legs, long standing. Right leg presented three ulcers ranging in size 1, $2\frac{1}{2}$ and 3 inches in diameter; left two ulcers $1\frac{1}{2}$ and $3\frac{1}{4}$ inches in diameter. Both legs edematous and inflamed. The ulcers had a worm eaten appearance with dirty gray granulations. This patient had been treated by several physicians, been kept in bed as long as six weeks at one time, but they never healed. Treatment: Cured ulcers thoroughly, put on gauze and cotton compress and instructed nurse to wet with Dakin solution every two hours, changing compress every twenty-four hours. At the end of ten days the ulcers were filled with healthy granulations,

then commenced paraffin dressings. After two weeks allowed in chair, began walking at three weeks, all ulcers entirely well covered with good skin at six weeks. Taking into consideration the weight of this woman and long duration of ulcers, consider this a very satisfactory result.

Case 4—Female; white; age 43 years.

This patient consulted me for relief of an ulcer of the left leg, 1½ inches in diameter. It was highly inflamed and very painful. Her doctor told her to go to bed use vaseline and it would soon be well. When I first saw her she had been in bed two weeks with no relief of pain and cellulor infection. The ulcer presented a very angry appearance with an area some distance beyond quite swollen and inflamed. Treatment: Gauze and cotton compress wet at two hour intervals with Dakin solution. Within forty-eight hours all acute pain relieved, with little soreness. Kept in bed one week with wet dressings, then began paraffin, allowing her to be on her feet. At the end of three weeks she was well.

In conclusion will say, that, I believe if you will get rid of the infection in ulcer and surrounding cellular tissue with Dakin solution healthy granulations will rapidly appear; the paraffin dressings will greatly facilitate epithelial growth, thereby relief from skin grafting obtaining the desired result with less pain and discomfort to the patient—a cure.

THE WAR AND THE DOCTOR.*

North Carolina Averages Full Quota
With Other States in Service and
Will Meet Further Requirements.

Members of the Class of 1918:

It is with peculiar pleasure we are permitted to greet you this morning, and while you may not have said so, we feel assured from your presence here that you are glad to see us.

We realize that you could have gone to Virginia, or South Carolina, or across the mountains to Tennessee and secured your license there, but the fact that you elected to come to Raleigh is "prima facie" evidence that there is something about North Carolina that attracts you, and whether the Board of Medical Examiners form any part of that attraction

we shall not assume nor will we permit you to discuss until you have sufficient authority to speak.

As spokesman for the North Carolina State Board of Medical Examiners, I want to disabuse your mind, if you have any preconceived notions or formulated ideas, that it is the purpose of any one of our members to press you unfairly with mysterious technicalities or dogmas of personal faith or expression.

It somehow happened, whether from wisdom or of choice or by accidental occurrence, the North Carolina State Society has given you a board representative of the different professional types, largely generalized it is true, yet so graciously tintured with the elements of specialism, that mental aberrations, temperamental differences, physical discrepancies and personal characteristics will each pass in review before its rightful judge without prejudice to any and with special favor to none.

We are not here to exhibit ourselves to you as exponents of much learning, nor to impress you with the spirit "we are holier than thou" nor is it a fact that we have grown so antiquated or so old that we have forgotten the memories of that occasion, "that just as you are now so once were we." To us, however, is delegated the guardianship of the "port of entry" and the doorway to the medical profession of the State. We are honor bound to protect it from the immoral, the incorrigible and the incompetent, lest the baneful influence of their infective germs pollute the body politic and the seeds of corruption be sown in the atmosphere of their insidious presence.

We envy you your strength, your vigor and your youth and commend to you with the highest faith, the professional good that you can do and the final reward of virtue which surely awaits you.

We desire that you be learned in the principles and teachings of medicine which will qualify you to practice intelligently among the unfortunate and the diseased and in order that your skill and your knowledge aptly applied may bring relief to their disorder and comfort to their suffering; but equally insistent shall we be that everywhere and at all times and under all conditions wherever the exigencies and demands of your profession may lead you, that you preserve unsullied the dignity of your profession and the spotless honor of worthy gentlemen.

With these simple words we greet you and permit us to express to you the hope that each may pass in single defile the

*Address of Dr. E. G. Moore, of Elm City, President of the Board of Medical Examiners of North Carolina, to the class of applicants for physicians' license at Raleigh, Monday, June 24, 1918.

straight and narrow way which leadeth you to a seat among our brethren.

Since some of you, perhaps many of you may feel your conscious duty leads you away from the field of private work to that great arena where camp and trench and hospital and battlefield call aloud for your presence and your help, I am constrained to say a further word to you on the War and the Doctor.

By reference to the tabulated statistics we find there are in the United States 146,500 physicians and that about 20,000 have enlisted in the medical corps of the army and navy and yet the call is for greater numbers—now 30,000. This number already represents about 15 per cent. of the entire profession in the United States, but it will require 21 per cent. to secure the number now asked for. The smallest number from any State is 24 from Wyoming and the largest number is from New York—2,583—and the next largest is from Pennsylvania, with 2,022.

The largest percentage from any State, according to number of physicians, is Arizona, with 23 per cent. and yet has only 76 enlisted physicians, while the smallest percentage is from Arkansas, 7.8 per cent., and yet from this State, there are 202 physicians. North Carolina, with a population of 2,433,782, has 2,337 physicians of whom 21 are females; 1,706 of these are under 55 years of age and the total enlistments are 340 or 15.2 per cent., which fully measures the general average of the entire states.

The only point to be emphasized in these statistical statements is the announcement that North Carolina averages a full quota with the other states of the Union and with every confidence to believe that she will keep pace with the future requirements and demands of the government.

For four long years we have been reading about the war and giving opinions pro and con as our weak judgments gave us the vision to see it.

None of us thought in the beginning of the hostilities that a greatly prolonged strife was at hand or that its menace and danger would leap the boundaries of European confines and with a destructive, fury sweep over the islands of the sea and the peaceful habitations of the countries beyond—and yet we read in the morning papers that on the Jersey coast the German submarine has appeared and done its deadly work. Most of us thought that America was safe and we greatly rejoiced in our institutions, our freedom and the great expanse of waters whose

natural barriers would prohibit the possibility of an invasion. We dined and danced and we slept in peaceful repose, trusting in the serenity of our own security and looking to its final ending, with supreme trust and sublime confidence that with us at least "all was well" and that when the smoke of battle should clear away and the glory of morning, filled with the light of freedom and the songs of peace, that America unharmed and untouched, would stand full breasted before a crippled world, in the full power of its strength and the richness of its immense wealth, giving succor to the needy and alms to the poor, regenerating the faith and redeeming the hope of the world.

This dream, however beautiful, had its rude awakening and for more than a year we, too, have joined the great armies beyond the seas and with every energy, force and power are contributing to the establishment of a vast army on sea and on land whose battleships will establish its freedom and whose mighty sweep of planes and thunder of guns will proclaim the liberty of the world.

This is the vision of every true American and this is the spirit that moves and inspires to noble deeds of valor the boys who have "gone over there."

The policy, the manner, nor the time of going is no longer a question with us, the fact is that they have already gone and will continue to go until the purposes for which they go have been accomplished; but the question which more largely concerns us is, how well they shall go and how well they shall be comforted and cared for, whether the subject of injury or the victim of disease.

The strong arm of the government, the patriotic wealth and the service of our men and women have, and will continue to contribute whatever is needful of material value; but there is a service paramount in its importance and far more exceeding in its value, which remains alone with the surgeons, the doctors and the nurses who consecrate their service to the physical welfare of their comrades in arms, whether in hospitals or camps or battlefields in pious ministrations to their suffering or their ills.

That this service is essential there can be no question and none other than those qualified to perform it, can render the proper aid.

What magnitude of responsibility then rests upon those who represent this profession and what marvelous opportunity is given to enrich and ennoble and dignify

the honor and the glory of that calling whose history is a record for humanity, whose songs are psalms of peace and whose promise finds its everlasting covenant in the gem crowned rainbow of hope. The young man, vigorous in body and strong in faith, looking for the last time upon friends and home and mother, turns his eyes towards the scenes of conflict and with an elastic step and courageous heart, moves on "to do his bit," never knowing and never fearing the dangers that confront him. The command and soldierly bearing of his superior officers, the hurrying troops of cavalry, the marching hosts of comrades in arms, the glittering bayonets, the sound of bursting shell, the roar and thunder of musketry, the strains of martial music, the waving flag of the "Stars and Stripes" as it lovingly plays amid its whispering breezes, inspire his soul with daring courage and points the way to deeds of valor.

The command is given the charge is made and the fight goes on, but when the smoke of battle has cleared away, prostrate upon the field of carnage a wounded soldier lies, the victim of the tragedy of war.

Wounded, bleeding, sufferings with pain, helpless and alone, he looks to God and prays for help.

Thus agonizing with mortal pain,
Unmixed with dread or fear,
He turns his thoughts towards home
And loved ones there,
And dreams of them; till overcome
By fast and shallow breath,
He falls in deep and unconscious sleep,
His needed rest.

Comforted by the gentle ministrations of loving hands and sympathizing friends, he awakes and looks with bewildered mind at the group of attendants who surround him. To him the scene is strange indeed, and altogether unfamiliar and once more he looks, but still in vain, hoping to catch the sound of his "master's voice" and feel the touch of his comrade's hand. And then he closes his hazy eyes and if to dream again, but suddenly he awakes and brushing them he looks again, and sees bending over his couch and standing near his side two forms all dressed in linen white, each with gentle voice and loving smile; one speaks to him and the other touches his hand and looking up at them he recognizes both as his true and loyal friends.

With eyes now filled with grateful joy

and his heart swelling with the passion of a new love and his weary pulse beating time to the richness of a new life, he stretches forth his hands and with prayerful lips he utters with feeble breath—

"God bless the Doctor and the Nurse."

Whatever of honor, whatever of glory, whatever of virtue and whatever of good report shall be bestowed upon him who gives his service for his country's good, let it never be forgotten, that coequal in every ambition, coequal in every sacrifice, coequal in the consecration of spirit and purpose, of health and life, there stands close beside him, undismayed and unafraid, his co-partner and co-worker, the non-commissioned and uncrowned Queen of the Army, the faithful and courageous Nurse.

Amid all the conflict of shadow and sorrow, of suffering and death, let it be the privilege and good mission of our profession to bless and to comfort; and when the dawn of peace shall come to a maddened and belligerent world, may we feel the conscientiousness of a service worthy our good name and as our badge of honor receive the plaudit—"well done, thou good and faithful servant."

PACIFISM VS. HEALTH.

By F. C. Tice, M. D., Roanoke, Va.

We hear much these days of the theory of non-resistance. As the possession of health is wholly a matter of personal resistance to obnoxious advances, the parallel between robust individual existence and that of the State is self-evident. Anyone in an abnormal condition is a victim to either wilful or involuntary pacifism, just as all of our other troubles are due to either wilfulness or ignorance. As in National affairs, lowered resistance invites invasion. We are today conversant with the various animal and vegetable micro-organisms pertinent to disease states, each carrying its special form of affliction, all following well defined laws of development and each subject to an equally definite course leading to either victory or to defeat in the economy, as the case may be.

Bacteriological research has made clear their respective histories as to development, propagation and destruction sub legis Naturae, leading to the beneficent field of antitoxins, vaccines, serums and intra-venous medications, thus finally placing the practice of medicine upon a really scientific plane. Unfortunately,

many in the profession, with an eye single to these great benefits, overlook the fact that the primary invasion had never occurred had the resistance of the patient been normal and further, fail to realize that the destruction of the invader, with his brood, is but one phase of the needs of the patient. The conditions favoring infection may be mental, physical, or both. Having overcome the infection, sequelae and causative presentments require careful attention that a condition of normal resistance, which means health, may be established. It is therefore necessary that each individual cell be brought under the influence of a strengthening, restorative influence.

How may this be best accomplished? It is already asserted that this is beyond the province and the power of the various serums.

During the years of study leading to the birth and triumph of bacteriology and serum therapy, earnest men were patiently following a parallel course of investigation and clinical study which resulted in discoveries even more important and only less useful to humanity because of limited adoption. I refer to the action of radiant light and heat, the Roentgen ray and electrical currents of high frequency. It was established that radiant light and heat might be so applied as to weaken or destroy germ life by over stimulation, while on the other hand the Roentgen ray could be so directed as to inhibit the germ indefinitely without destroying it, or again, complete its destruction.

It naturally follows that with an inanimate germ, its propagation checked, the mononuclears unimpeded, we would have immediate cessation of infectious growth, the formation of antibodies and antitoxins, subsidence of temperature, resumption of natural functions and a prompt return to health so far as influenced by the infection. Evolving a working technique from this knowledge, tests were made clinically with the various infections, the results obtained being almost incredible. After nine years of patient testing out, it may at this time be stated that all infections, save lues, either acute or chronic, are favorably affected, and the one exception may be simply awaiting a correct technique. The speedy subsidence of all symptoms in acute infections, in the light of our previous experiences under the old methods, creates a natural doubt as to the correctness of the original diagnosis. In the use of these methods one can dispense with drugs to a certain extent,

though evacuations and perhaps an intestinal antiseptic will in most cases cover the requirements in this regard. Diet and hygiene are important. For removing the conditions which have been predisposing causes no method of treatment, in the experience of the writer, compares with the intelligent application of the measures noted, in conjunction with properly selected forms of the high frequency current. While the beneficial results of treatment by these methods are now widely recognized, the chemico-physiological *modus operandi* is a matter of more or less speculation. That it is purely mechanical is open to question and not tenable. Of end results there is no doubt. Every cell in the body is reached, the throwing off of effete matter and the growth of new cells is accelerated. The body is rejuvenated, reserve force restored, and normal resistance established. The advantage of the above method over the serum treatments lies in the fact that there is no traumatism, no introduction of foreign substances, no febrile reaction, no pain, and more than all, the results are immediate. Of common infections, positive phenomenal results have been obtained in hay fever, typhoid, parotitis, measles, pertussis, influenza, bronchitis, acute pulmonary congestion, etc., and assured in anterior poliomyelitis and acute meningitis.

Before infection, in cases of lowered vitality, indisposition, nervous states, physical exhaustion, or functional disturbances, the use of these measures should result in that state of preparedness that insures freedom from attack and a full opportunity for the pursuit of happiness.

709 S. Jefferson St.

Treatment of the Amebic Character.—

H. L. Watson-Wemyss and Bentham, in *The London Lancet*, find that the best results are obtained in such cases by a combined method of treatment which consists of the daily administration of sixty-five milligrams (one grain) of emetine by hypodermic for five consecutive days and the simultaneous daily administration orally of 0.18 gram (three grains) of emetine bismuth iodide in salol coated pills for twelve days. One milligram (one sixtieth grain) of strychnine was combined with the injections of emetine to combat the depressant effect of the drug. Diet was found to have no influence on the effects of treatment so long as it was light and readily digestible. By this plan ninety per cent. of the cases were cured with one course of treatment.

EXEMPTION BOARDS AND THE MEDICAL MEN IN MAKING AND KEEPING UP AN ARMY.

By Luther Sexton, M. D., New Orleans.

Exemption boards are bodies of men co-operating to select a suitable army out of ten million citizens to win the victory for democracy. Our government and state owe a duty both to the dead and the living and also to the generations which are to follow. As medical men we have to do our part in assisting the army so that democracy shall not perish from the face of the earth and so that the ocean shall be free again. If our selection is bad in picking men for this work, we cost the government the expense of transporting a man, who is found deficient upon first trial at the cantonment, and do the individual an injustice. While all the aids to diagnosis should be used when possible, it must still be the clinician who can select the good from the bad virtually at sight without the aid of laboratory or refinements in diagnosis; they are to separate the ten million into the two classes of the fit and the defective. Men can only be maintained at their best physically when they are examined frequently; the leaky heart valves must be rested, the diet, exercise and drink must be regulated to reduce nephritic diseases, as heart and kidney lesions have increased thirty per cent. in recent years and now lead pneumonia in fatality. The United States must conserve its man power by every possible means. France has already lost more men in this war than she gained in birth rate since 1870. We must win this war by conserving the food and health at home as efficiently as we expect the army and navy to be on land and sea. Our doctors and soldiers are going to France to meet a shrewd military enemy, who has been preparing for this supreme test for half a century;—who are thoroughly equipped and well dug in. There should be no room for slackers or discontents left at home, but to the limit of our ability, moral and financial, we should back up our brave soldiers and allies who are going over the top to "No Man's Land," many of them never to return again. On account of its being fought on foreign soil, the war is not as popular as it would be if the United States were invaded; on this account, our exemption boards in some instances have toiled all day to certify only six soldiers. As found in the parable of the wedding feast the conscripts made many excuses;—one was

so necessary to his business that it would go to destruction without his guiding genius;—another desired to escape on religious scruples, and the commandment "Thou Shalt Not Kill" as if our enemy was remembering the sixth commandment;—but the far greater part of those claiming exemption had married a wife, only after the draft law had gone into effect; so unwillingness on the part of many to volunteer property and person for the country's defense is in a way affording aid and comfort to the enemy.

Dr. Crile, just back from a base hospital at the front, says that the Central Powers are not nearly exhausted, that the war is not half over, that German prisoners are found to be well nourished, clothed and armed. He says there is no glimmer of dawn on the war's horizon. If one million of our citizens are to be sent to the front, ninety-nine million should be conserving, working and saving at home. At the beginning of the war, in the United States only 2 per cent. of the medical men needed were in the service, whereas three-fourths of the British and French medical men under fifty are at present in uniform. If the United States sends doctors to the service in the same proportion as Great Britain and France, we will have to send forty-seven thousand instead of twenty-two thousand. Such exaggerated statements have been made about mortality among doctors at the front that it might be of interest to you to know that during the past three years of war only two hundred and sixty-six medical men of the British army have been killed outright and only one thousand two hundred and thirty-four wounded out of twelve thousand in service. The sanitation advised by medical men made the building of the Panama Canal possible after the French had failed to build the same, and our medical men in the army are playing no less important part by the prevention of typhoid and paratyphoid, small pox, malaria, typhus fever and tetanus.

Our local board number 10 called six hundred and seventy-six registrants, examined six hundred and thirty-seven, rejected one hundred and eighty, equivalent to twenty-eight per cent. for causes as follows: Weight and general conditions, suspt. T. B.—45, Heart—30, T. B. Second and third stages—6, Acute Genito-Urinary—4, Feet—2, Eyes—29, Hearing—11, Teeth—1, Acute Syphilis—4, Paralysis—2, Mentally deficient—7, Hernia—18, Epilepsy—2, Hemorrhoids—3, Loss of fingers—3, Legs—7, Arms—4, Goitre

and Aneurism—2, Atrophy of limbs—3, Total—180.

It has been estimated that eighty per cent. of our colored population are luetic, and our ignorant and bibulous white population is a close second in this disease. Since typhoid, para-typhoid have been eliminated venereal diseases in one from or another have been the great disturbing factor of the army;—hence the insistence of the army and navy on placing no cantonment near a town or city with a legalized vice district. Segregated vice is often more damaging to an army than the bullets of an enemy. Every soldier who is out in a segregated district at night is expected to take a prophylactic injection upon his return to camp, but the rule is more often evaded than complied with because it is a demerit against a man to so report. Syphilis and its complication has been classified among the five best killers. It not only attacks all the soft tissues of the body, but honeycombs the nervous and bony structure, thus causing many rejections. While we found a few instances of acute syphilis and gonorrhea in the first stages, we saw many more in the second and third stages and especially was this true, of heart and nervous lesions in which tachy-cardia was the rule rather than the exception. Syphilis and gonorrhea are the national epidemics among soldiers exposed to the red light districts in any country. It is a well known fact among internists that when they are in doubt about a heart lesion to give the patient the mixed treatment, which is often followed with a remarkable improvement. Our profession as a body should stand for the abolition of all segregated districts. An educational campaign by lectures, good moving pictures, such as "Damaged Goods" and sex hygiene in which prudery is put to rout and in which venereal diseases are not treated as if no more important than an ordinary bad cold, but on the contrary in which the public should be made to know that any treatment for syphilis not covering a period of at least two years or after several negative Wassermanns, is quacking pure and simple.

The great expense of training a citizen into a soldier and transporting from home to cantonment is an unnecessary trouble to the government unless the exemption boards in the beginning have selected a subject suitable for the service. It would not be amiss in my judgment if the exemption doctor vaccinated the soldiers at their first successful examination against small pox, typhoid and para-typhoid; the

soldiers would then be practically ready for training when they arrive at the cantonment. No effort should be spared by the sanitary and surgical directors of the army to offer the soldiers the very best chance in the way of healthy environments and good hospital accommodations. Our profession at the front should do its work so well that every limb possible should be saved and every fracture so scientifically treated that few deformities result. The army standards do not exact perfect physical man and the exemption boards have been so instructed, but in trying to make this army of a million, the unfit found between the ages of twenty-one and thirty-one, has averaged from thirty to forty per cent. Among the principal causes are sight, bad teeth, light weight, defective lungs and heart, hernia, and luetic diseases. If one-third of our young men are thus diseased, what must be the percentage beyond thirty-one in our general population?

It should be the object and desire of our medical profession, who are unfortunately left at home to render fit all these minor defects in order to fill in the future drafts in the army. To the campaign before the public against cancer, T. B., and luetic diseases should be added the correction of all minor defects bringing up the physical standard of our citizens to the fitness for the army and navy, as well as the greater duty to be the fathers of coming generations. Now is the psychological moment for the general public to back up the medical profession in correcting these minor defects that now excuse one out of every three persons for military service. There should be no permanent exemption for refraction cases, minor surgical defects as hernia, hammertoe, hemorrhoids, bad teeth and many other conditions curable by minor surgical operations, and cutting down on the excessive use of tobacco and liquor in order to slow down the exaggerated pulses.

Wine, bad women and venereal diseases come in natural sequence; the medical profession therefore should stand as one against the excessive use of alcoholic beverages and exposure to commercialized vice, so that our young men who return from the war shall not be shot to pieces by venereal diseases. It may seem a hard thing to say but it would be better for the future of America if no serious syphilitic person return from the war to entail his misery and disease upon unborn generations at home. The greatest danger to a young soldier in a wide open can-

tonment is not bullets but the temptations that go with and overcome his feeble resistance to the lust of the flesh.

The way we detected malingerers, who claim that they could not hear was by asking questions at a distance of twenty feet with thir backs turned and one ear covered. "Do you not feel that the oceans should be free to travel and that the United States have been outraged? Do you want to back up our President? How much did you give the Red Cross, Y. M. C. A. and K. C. drive?" Then suddenly ask at a lower tone of voice, "On what grounds do you claim exemption?" "Are you not the only support of your family?" In this way, you will get an answer to a lower tone of voice. We always referred to the clinic or doctors who have been treating a man's eyes or ears, for information, but as this work was gratuitous we sent eye and ear cases, which we could not determine, to the office of a specialist instead of asking them to lose from four to six weeks time from their practice. Tobacco and whiskey hearts and excitement of the examination account for many having fast pulse, for which due allowance must be made. If there is no organic murmur, or only a functional nervous disturbance or anemic murmur, army training, regular food, sleep and cutting the allowance of the chain smoker and regular tippler, will often reduce the fast pulse to normal. About the best thing that can happen to the confined office man who really never has any exercise, harder than inhaling a cigarette, is to send him to the army camp, cut out his booze and cigarettes and watch him grow under regular exercise, proper and well cooked food, and sufficient sleep. Our climatic conditions and cosmopolitan forbears make our soldiers ten to twenty per cent. lighter in weight than soldiers in colder climates, and from more hardy races. However light weight is not so much an objection when we remember that ex-Confederate General Wheeler and Winston Spencer Churchill were only slightly above the hundred and ten-pound limit. Again, having no excess avoirdupois ought to enable a man to advance and retreat with more ease. The real hard question for the medical examiner to determine is whether this light weight is dependent upon heredity, environment, lack of sufficiently and properly cooked food, or whether it is caused by lung or some other serious disease. The medical examiner should be a good clinical diagnostician, more handy with his stethoscope, and urinalysis, than the more re-

fin'd diagnosis of the laboratory and microscope, which, in examining from fifty to seventy men per day, the doctors have very little time to use. We found many first stages T. B. cases who did not know themselves afflicted with the disease, but fortunately they were in the curative stage, if they heeded the advice given them, which was at once to consult their family physician about the proper diet, medication and mode of living. On account of our warm climate, many T. B. cases from colder climates come to live in New Orleans and our own population and T. B. Houses already contain perhaps five thousand open and ten thousand concealed cases. Our general death rate from consumption in the United States in one year amounts to as many men as we now have on the French Battle Field. Our million and a half consumptives in America call for twice as many beds as in all of our cantonments combined; so with physical signs of T. B., light weight, anemia, and evening temperature such cases should not be sent to the cantonment where they will prove a liability instead of an asset to the army.

In concluding, we wish to say that the medical men of the exemption boards have the unqualified help and support of the lay members, and the enclosed clipping gives Provost Marshal General Crowder's estimate of the boards efficiency.

General Crowder pays tribute to the zeal and patriotism of more than thirty thousand men who compose the machinery of the selective system. With only ten weeks for the task, the first national increment of six hundred and eighty-seven thousand was drawn, he says, by a nation "moving breathlessly, supported by the governors of the states and by the members of the selection boards with a patriotism, devotion and unselfish zeal that remains an inspiration." "You are, in effect," he added, "a part of the army of the United States, in that you are the source of its supply. The nation is rapidly becoming a great system, and, if this part of it were disturbed, it is not too much to say that the system would be shattered so effectively that it would take weeks, if not months, to repair the damage."

Tongaline thoroughly fulfills the requirements of an eminently satisfactory remedial agent on account of its excellence of material, its uniformity and its reliability.

SEPARATE BEDS AS HEALTH CONSERVATORS.

By Edwin F. Bowers, M. D., New York City.

In the last decade of the 19th century Angelo Mosso, Professor of Physiology in the University of Turin, made a series of observations and experiments dealing with a graphic method of registering the movements of the brain and circulation during sleep. They were made upon a man of 37 years of age, a woman of about the same age, and a child of 12, who had lost a portion of the top of their skulls through various accidents, the seat of the wounds being covered with a soft pulsating scar.

By a special arrangement Mosso took simultaneous tracings of the pulse at the wrist, the heart beat, the movements of the wall of the chest made by breathing, and the movements and pulsation of the denuded surface of the brain.

By means of the plethysmograph—an instrument of his own invention, but now in general use by physiologists—Mosso obtained tracings upon carbon paper showing changes in the volume of blood in the hand and forearm. He showed that during sleep there is a diminished amount of blood in the brain at the same time the amount of blood in the extremities is increased.

But the most significant feature of Mosso's work developed from the fact that there are frequent adjustments of the blood, even during sleep, resulting from various stimuli.

Thus a strong stimulus to the skin or to a sense organ—but not strong enough to awaken the sleeper—caused a contraction of the blood vessels of the forearm, an increase in the blood pressure, and an increase in the amount of blood in the brain.

On the other hand, if the sleeper was suddenly awakened, there was a contraction of the blood vessels in the brain, a general rise in pressure, and a quickened flow of blood through the brain.

So sensitive is the system to those influences, even during sleep, that a loudly spoken word, a sound, a touch, the action of light, or any other sense impression changed the system of breathing, caused a contraction of the blood vessels in the arm, increased the general blood pressure, caused an increased flow of blood to the brain, and quickened the frequency of the heart beat.

All these disturbances, as Professor Mosso points out, "lighten" the sleep, interfere with the building up of tissue,

and retard oxydation and all the physiological functions of sleep.

From this it will clearly be seen that the practice of sleeping in separate beds, adopted in most modern households, is one of the most health-bringing reforms humanity has ever instituted.

For a cough, a restless move, a touch, a sigh, a fanfare of snores or groans, the mutterings of a dreamer, the twisting and turnings of an insomniac seeking a more promising sleeping position—all interrupt the function of sleep. Therefore restlessness of either of the sleepers is communicated to the other.

It is disturbing enough, indeed, for two persons to sleep even in the same room. Every step or squeak or sound, or even the sensation caused by the presence of another person close by—a sensation usually magnified by the subconscious mind—tends to lighten sleep. But to lie within touching distance is infinitely worse.

And everyone knows how infections—such as colds, "sore-throat," coughs, grippe—are communicated by sleeping with one so afflicted. There is no quicker or more effective way to contract any contagious disease than merely to sleep with one who has it.

Also, while it may not actually cause disease, it certainly is most unhygienic and unesthetic to be obliged to breathe the offensive breath of one who suffers from catarrh, decayed teeth, or stomach disorder.

The single bed also permits one to sleep on either side at will. One who has a bed to himself doesn't have to sleep upon his left side—an uncomfortable position for many fleshy people, and for those with any tendency to heart trouble—in order to avoid breathing the poisonous exhalations of his sleeping partner. And when he gets tired of sleeping on one side he can change to the other at will.

Separate beds also make it possible for each sleeper to gauge the amount of covering according to his individual needs. He uses only what he wants—and no more. Or else all he wants—without giving his partner an unsolicited Turkish bath—bedclothes to tuck in about one's self at will, or to be cast off without a thought of discomfort to a companion.

The constant exchange of magnetism with one who shares a bed tends to create apathy and a distaste for contact—and something of the elusive charm and mystery of sex aloofness is brutalized or lost thereby.

For children to sleep with the aged—

to whom they constantly lose magnetism and vital force—is a crime against the child. The facts of such loss are admitted by every competent medical man—the principal has been recognized from time immemorial.

This same loss in vitality is responsible for much of the nervousness, irritability and weakness that effects American women—for the reasons just mentioned.

Dr. George Starr White brings these facts out very clearly.

He says: "During sleep the psychomagnetic radiations from the body are greatly reduced—proving again that the psycho-magnetic radiations or magnetic atmosphere of the body are simply a manifestation of energy, voluntary or involuntary. As these magnetic radiations are increased by mental effort, so are they decreased by sleep.

"The more deeply any animal is sleeping, the less energy can be observed in their magnetic atmosphere or radiations.

"Every rate and mode of motion within the body influences a rate and mode of motion emanating from the surface of the body, these emanations being known as the aura, the psycho-magnetic atmosphere, or magnetic radiations. The most prominent of these radiations I have termed auric rays, as they are distinct rays in the auric or magnetic atmosphere.

"I have also mentioned the fact that these auric rays can be projected, and that one individual is influenced by another individual by what some have called the sixth sense, but which in reality is the auric rays—the magnetic atmosphere projected.

"Frequently the physician hears that his patient does not sleep well, that something seems to irritate him. The physician asks if he sleeps with anyone, and perhaps he does. If the physician is informed regarding auric phenomena, he will at once advise the patient to sleep alone. Sometimes even if the patient sleeps alone, but in the same room with someone, he may have to sleep in a different room.

"Patients sometimes say that they cannot sleep if a certain nurse is in the room, but if another nurse is there they sleep well. This is not due to imagination. For in many cases the antagonistic nurse was sent into the room after the patient was asleep, and the patient would unconsciously begin to move about as if his subconscious condition were irritated by the very emanations from the one that was antagonistic to them. I have often

questioned such patients to see why they had this feeling, and almost invariably they say they do not know. They regretted it—but it was a fact, nevertheless.

"As a rule, I should say it is better for people not to sleep together, because if one has a weakness in any part of the body, that weakness seeks to be satisfied. If the sleeper's companion can satisfy that weakness, it is going to be taken, because the law of nature is toward establishing equilibrium. There is no doubt that the auric emanations from one person affects another during sleep as well as during waking hours.

"As for sisters sleeping together, or brothers sleeping together, I believe it is a bad plan, as one is liable to draw from the other—one will be the gainer and the other the loser.

"How much of this is due to loss in magnetism and how much to the disturbance caused by restlessness, of course, cannot be definitely stated.

"Another condition I have observed in studying the traits of those who have for years slept together, is that one individual completely dominates the other." I have often heard it said of such individuals that the temperament of the one seemed to have fallen entirely under the control of the other.

"If two individuals are of a similar temperament and both of the same activity, sleeping together is a great detriment, and is bound to make one or the other deteriorate in some way. This is a natural law—a law of opposites attracting each other and likes repelling.

"Taking all things into consideration, the physician should advise his patients to sleep alone. This can be done by having separate beds in the same room or in separate rooms, depending upon their circumstances."

Dr. George Lenox Curtis of New York, finds also that:

"Stronger or older persons live at the expense of the weaker or younger with whom they may sleep.

"One delicate, nervous child I remember had been treated by a number of physicians, in all sorts of ways. I inquired into her sleeping habits; found out she had slept almost from birth with a big robust mother.

"I ordered the child a room and a bed to itself—no other treatment. Her improvement began from the very first night. The child thrived—grew strong and well—both in nerve and body.

"And this is only one of a dozen cases

I have seen—where vigorous, healthy men have sapped the vitality of frail, delicate women, or where older people have systematically robbed younger sleeping-mates of health and strength."

And, while fortunately such accidents are not frequent, hundreds of instances are known in which mothers, during sleep, have rolled over upon their babe or young child, and smothered it. Such an accident is liable to occur at any time, to any mother who sleeps in the same bed with her child.

So separate beds are as necessary as are separate tooth brushes or separate underclothes—or separate anything that is intimate and individual. Their general use will go far to increase the sum total of human health, happiness and efficiency.

TRAUMATIC "PALSY" OF THE UPPER EXTREMITY IN CHILDREN.

By Jacob Grossman, M. D., Chief Orthopedist
Stuyvesant Polyclinic, Chief Orthopedist
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Traumatic palsy of the upper extremity is a condition occurring especially in children. It is usually the result of dragging or lifting the child suddenly by the wrists or forearm, thus jerking the upper extremity violently. It is characterized clinically by an apparent palsy of the upper extremity, disability and pain.

The pathological lesion present is one in which there is a partial dislocation of the head of the radius usually accompanied by the tearing of a few fibers of the annular ligament. The surrounding tissues are damaged slightly or not at all, as swelling, ecchymosis and other signs of a severe injury are wanting. Adhesions rarely form in the periarticular structures or in the elbow joint. As far as can be determined from a clinical viewpoint there is a complete return to the normal in the tissues affected. Fracture of the head or neck of the radius or separation of the epiphysis of any of the bones entering into the formation of the elbow joint never occurs.

The history obtainable in these cases is characteristic. The child is raised by the wrist, or as in a number of instances refuses to obey its parent or guardian and is forcibly dragged by the wrist, or he attempts to run away from his parent or guardian and is suddenly dragged back by the wrist. Immediately thereafter there is disability and pain. The pain appears general and not localized in any

definite area. The limb hangs limply at the side and the child is unable to move it. The mothers are ignorant of the exact location of the injury, referring it to the wrist in a large number of instances. The child refuses to use the entire upper extremity. All active movements of the forearm are absent. Passively, flexion and extension of the wrist and elbow are free and painless. Passive supination and pronation are restricted and painful. Ecchymosis and the other cardinal signs of fracture are absent. At the extreme of passive supination a clicking sound, such as is commonly heard when a dislocated bone is replaced to its normal position, is discernable and immediately thereafter or within a very short period, there is complete return of function in the limb. The child grasps for any object which is placed before it, flexes and extends, supinates and pronates the forearm voluntarily. The pain which was present disappears. It is interesting to note the rapidity with which the limb returns to the normal after the reduction of the dislocation of the head of the radius, is accomplished.

The differential diagnosis of this condition is not very difficult. The history and the clinical picture are distinctive. The most important condition that must be differentiated is infantile paralysis. The symptoms of the onset of the latter, followed by paralysis usually of the deltoid muscle and occasionally of any of the other muscles of the arm or forearm, the marked atrophy and the presence of the reaction of degeneration makes the diagnosis of infantile paralysis very evident. Fracture of any of the bones entering into the formation of the elbow can be eliminated by the absence of the cardinal signs and symptoms of this condition. The Roentgen ray will also assist in eliminating fracture. The Roentgen ray picture in traumatic palsy as a rule fails to disclose any pathological lesion.

The prognosis is excellent. Once the dislocation of the head of the radius is reduced, there is no impairment or permanent injury to the elbow joint. The condition does recur and the parents should be warned about dragging their children or lifting them by the wrists.

The treatment is very simple. After reduction, the elbow is immobilized for a period of twenty four hours by means of flannel bandages; thereafter immobilization can be discontinued and the child permitted to use its elbow. As a rule the convalescence is uneventful.

In concluding it would be well to emphasize that the most important points

to be remembered about this condition are, first the typical history, i. e., dragging the child or lifting him by the wrists, second, the characteristic clinical picture, an apparent flaccid paralysis of the upper extremity and, finally, the immediate return to the normal after the reduction of the dislocation of the head of the radius has been accomplished.

COUNCIL OF NATIONAL DEFENSE, WASHINGTON.

Dr. Franklin Martin, member of the Advisory Commission of the Council of National Defense and Chairman of the Council's General Medical Board, authorizes the following:

After a tour of many American cities, which enabled them to meet and address representative groups of American physicians and surgeons, Sir James Mackenzie, noted heart specialist of Edinburgh and London; Colonel Sir William Arbuthnot Lane, veteran surgeon of the Zulu, Egyptian and Boer wars, and authority on bone surgery, and Colonel Herbert Alexander Bruce, of Toronto, now consulting surgeon to the British armies in France, comprising the medical mission sent by the British Government to this country have returned to Great Britain.

"In the travels of our mission through America, we have been to many centers of war activity here," said Colonel Bruce, "and we will have a great deal to say when we get home about the marvelous and effective program which you are carrying out on so colossal a scale. I want to say that it has heartened us very much, and that we know it will hearten the people at home when we report there."

The visitors first came to Washington to pay their respects to Surgeon General Gorgas. Thence they departed for Cincinnati to attend the annual meeting of the American Surgical Association. At a special patriotic session in the Hughes High School, Cincinnati, June 6, under the auspices of the Ohio State Committee, Medical Section, Council of National Defense, Colonel Bruce described the British system of caring for the wounded. He stated that the British have forty hospital trains in France fully equipped with doctors and nurses, each train having a capacity of 600 beds—the whole constituting a mobile hospital of 24,000 bed capacity. He paid tribute to the heroism of the field hospital service and to the American surgeons and physicians in that service.

Sir Arbuthnot Lane told of the treatment of thousands of soldiers wounded in the face, some with jaws gone, others with cheeks or noses shot away. Colonel Lane is consulting surgeon at the Queen's Hospital at Sidcup, where this facial reconstruction or plastic surgery is the special work. "The man who loses an arm, a leg, or is injured in the body, can go back to the bosom of his family, but the man whose face is distorted, no matter how much his family may love and cherish him, suffers most," said Sir Arbuthnot. "So I began to isolate these cases, beginning with five doctors. This strat has developed into a magnificent hospital with 750 men, and we are literary making new faces. We have enlisted the services of the best dentists, sculptors, wax workers, and surgeons, and developed specialists in transferring bones from other parts of the body to the face. If you could see how happy these men are, it would be a lasting satisfaction to know their gratitude."

Sir James Mackenzie told of some of the heart cases referred to him. "Instances of 'irritable heart,' he said, "are due to general weakening of the body through illness in the trenches." Outdoor exercise and sports are curative agencies, he said.

Sir James, in speaking of the examination of recruits, said "The tests of a man's fitness as a soldier should depend upon what he has been doing and what he is able to do. A young fellow was sent to me because his heart was supposed to be bad. I asked him what he had been before he entered the service. He said he had been a butcher. I asked him if he had been able to carry the carcass of a sheep upstairs and whether such work had been a regular part of his duties. He said that he had been accustomed to doing exactly that, and frequently, and without physical discomfort; I said 'I do not need to examine your heart. If you can do work like that you are certainly fit.' Too many men are rejected because of alleged defects which are more apparent than real."

It was after this meeting that Colonel Lane asked why women are not eligible to the Medical Reserve Corps. He said that he had been instrumental in having them admitted to the Medical Service in Great Britain.

The noted British surgeons were guests at the monthly meeting of the General Medical Board of the Council of National Defense and at the meeting of the State and County Committees of the

Medical Section of the Council, held Sunday, June 9, in Chicago. At this time Colonel Bruce took special pains to speak of the work of American surgeons many of whom are members of the general medical board who are doing most important work at the front—Drs. Frederic A. Besley, George W. Crile, J. M. T. Finney, Charles H. Peck, William S. Thayer, Harvey Cushing, George E. Brewer, Richard H. H. Harte and others. "These men went over as medical men—and stayed as soldiers, for they operate at the front lines amid bursting shells and are continually under fire. While I was in France before leaving to come here on this mission, Sir Arthur Sleggett of the British Medical Service sent for me and said he wished me to take a message to America. This is what he said: 'I appreciate the very excellent work which American doctors and American nurses are doing in the British service.' He said they had been a very great help and an inspiration to the service. In fact, they will never forget the American doctors and nurses. He recommended a large number of your medical officers at the front for the same honors that he had recommended for those in his own service, but owing to the regulation of your Government they were not able to accept. On a recent trip to the front, I met also a number of your soldiers, who gave me the opinion when one looked in their faces that nothing would stop them, and you know what they did when they first encountered the Hun, quite recently. I don't think you need to worry about the enemy getting a few feet of territory. One or the other side can get some ground if they pay a sufficient price for it, and during the offensive of the 21st of March, and subsequent dates, the Hun paid a very large price for the territory which he took. Even if we should be driven to the sea, and if we have to take to the boats and go to England, this battle is not over. 'We will make it so that ships sailing through the Irish sea sail a sea boiling with submarines,' said one of the German leaders in February, 1917. To which England replied: 'Make it boil like the caldrons of hell, and we will sail just the same.' We of Canada and you of the United States are of the same race and blood. Now that we are comrades in arms, we have a still further bond uniting us. I have difficulty in appreciating the difference between Canada and America. I can tell you the difference between England and America. England says: 'As it was in the beginning, is now, and ever

shall be. Amen.' America says: 'As it was in the beginning, is now, and by gosh there's got to be a change.' That spirit now represents the opinion of England as well as that of our allied nations.

"The German chancellor when America entered this war very sneeringly remarked that the weight you would throw into the scale would not be greater than that of a straw. To this Mr. Punch replied that he quite agreed with the statement of the German chancellor, but he would like to point out and make the prediction that it would be the last straw which would break the camel's back."

Sir James Mackenzie praised highly the classification of American surgeons as reported by Dr. William J. Mayo for the Committee on Surgery of the General Medical Board. The class indexing and coding of the more than 20,000 American physicians was termed ideal by Sir James, who said that the United States is avoiding the mistakes made by England. "England," he said, "was precluded from such a systematic course by the suddenness with which the war came."

Colonel Lane told of the enormous help given by American surgeons who came over long before America's entry into the war, saying that he had been asked to speak about the difficulty of getting medical men for the military service. He said: "The difficulty with us has been to keep them out. I do not suppose you are any different from our men. I have always understood that the medical people in America were the keenest people in the world. Our people have gone without a word. They gave up their practices, their futures, their wives and their children. They did not ask: 'How much are we going to be paid?' or 'What is going to become of our families?' they came at once to the aid of their country. I do not think you will have to ask the medical men to come. I think the difficulty, my friends, will be keeping them away."

After their attendance upon the sessions of the American Medical Association convention, the visitors made a trip to Rochester, Minnesota, as guests of the Mayo brothers. In Boston, on June 19, the visitors spoke at sessions of the Massachusetts Medical Society in the Boston Medical Library. After this, came visits to Detroit, Cleveland, Pittsburgh, Philadelphia, and New York City, accompanied by Dr. Franklin Martin, member of the Advisory Commission of the Council of National Defense and Chairman of the General Medical Board, and

Major Henry D. Jump of the General Medical Board, arrangements being made in advance for them to speak at meetings held under the joint auspices of the State Committees, Medical Section, Council of National Defense and the local medical societies. Upon all these occasions the visitors urged the need of physicians at the front, and warmly seconded the efforts of the State Committees, and of Dr. Martin and Major Jump, in appealing to the doctors to enroll in the Medical Reserve Corps, Naval Reserve Force and Volunteer Medical Service Corps.

In Detroit on June 21, the visitors were shown about the city and visited the Packard and Ford plants. In the evening at a big meeting in the new Elks' Temple Auditorium, Colonel Bruce spoke of the work of Detroit surgeons at the front, including Drs. Angus McLean, Burt R. Shurly, Theodore A. McGraw, Harry N. Torrey, William A. Spitzley, Frank B. Walker, Louis J. Hirschman, Ernest K. Cullen, and also Dr. John R. Sherrick, a Michigan physician who has been awarded the military cross for gallantry.

Colonel Bruce frankly criticised Americans for eating too freely, saying that the menu cards in hotels and restaurants astonish foreigners. He urged that white flour and meat be conserved to a greater extent, and that the use of motor cars for pleasure be cut down.

Colonel Lane urged that instead of being lulled into security by the apparent success of war-winning work, America should forge ahead to greater efforts.

From Detroit the party went to Cleveland by boat. After a dinner at the Union Club, there was a largely attended meeting at the Chamber of Commerce, over which Dr. C. A. Hamann presided. In addition to the talks by the visitors, Dr. William E. Lower of Cleveland, who recently returned after a year's service with the Lakeside Unit at the front, also spoke.

Thence to Pittsburgh, where Dr. J. J. Buchanan, Chairman of the State Committee, Medical Section, Council of National Defense, and his coadjutors, had made such preparations for the meeting that 2,000 persons thronged Carnegie Music Hall Sunday night, June 23.

"When I left England I felt certain that we should win the war some time," said Colonel Lane. "Since I have been in this country I have become more certain, and I have come to believe that we shall win it soon." Colonel Lane spoke with enthusiasm of the shipbuilding ac-

tivities he had seen on this side. He regarded as equally efficient the medical organization work in Washington under Surgeon General Gorgas and Dr. Franklin Martin. "You can make a soldier in four months for the sea, earth, or air," he said, "but it takes seven years to make a doctor, and after we get him he must learn his job. It makes a vast difference in the work of a hospital whether or not it is organized for efficiency, and this depends largely upon the fitness of the physicians for their particular work."

Colonel Bruce said that the work of the medical men in the armies had stamped out typhus and typhoid fever, there being when he left France only twenty-seven cases of typhoid fever in an army of two million men. He told of an experience he had had in a hospital bombed by the Germans, adding that sixteen wounded German prisoners had been killed by one of the bombs dropped.

In Philadelphia, the visitors were the guests not only of the physicians, but of the city as well. Forty prominent men, including city officials and leaders in various activities, attended the dinner in their honor at the Bellevue-Stratford Monday night, June 24. During the day the visitors had been taken to Cramp's Shipyards, the plant of the International Shipbuilding Corporation at Hog Island, and the Eddystone plant of the Remington Arms Company. The meeting at 9 o'clock in the Bellevue-Stratford ballroom was presided over by Dr. Edward Martin of Philadelphia. Colonel Lane said: "When America sent Dr. Alexis Carrel to Europe, she did more than if she had sent ammunition, guns and food. His discovery has worked miracles among the wounded of the Allies." Colonel Lane also praised highly the other doctors and nurses from the United States.

Sir James Mackenzie asserted that England is not in danger of starvation. "Nor are there any signs of famine at present," he said. "Up to the last harvest food was scarce, and we had a hard time to get the staples of life, especially cheese and potatoes. Now things are running smoothly." Sir James urged that efforts be made to counteract German propaganda in Russia.

Colonel Bruce asserted that the imaginary boundary line between Canada and the United States had been wiped out, and that the present war has cemented the relations between the countries. Speaking of England's independence of Germany, he said: "We make our own dyes, and we do not bother or even give

a thought about the supply of German potash. Five thousand ships enter and leave British ports each week. We have loaned 600 ships to France and 400 to Italy. Before the war less than 200,000 women were engaged in work; now the number exceeds one million, in more than 400 branches of munitions manufacture. Social distinctions have been leveled in the utter democracy of overalls and caps."

On the eve of their departure, the distinguished visitors were entertained at a dinner given them by the New York doctors at the Metropolitan Club.

An Exceptional Local Anesthetic.

When, a little more than a year ago, announcement was made that the scientific staff of Parke, Davis & Co. had achieved the distinction of producing a local anesthetic possessing all of the advantages of similar products then in use, minus the disadvantages peculiar to many of them, the intelligence was received by thousands of American surgeons and physicians with manifest satisfaction. The advent of the new product was propitious. The time was ripe for a truly efficient American-made local anesthetic. And Apothesine appears to justify every promise that preceded it. There is abundant evidence that the product can be advantageously used in any case in which a local anesthetic is indicated.

Proof of the efficacy of Apothesine comes from all over the United States. Two examples may be cited: A Minnesota surgeon says that he has used Apothesine at least eight hundred times and has yet to find a case that shows any toxic symptoms or incomplete anesthesia; he reports seven thyroidectomies, excision of elbow, amputation of arms, legs, fingers, sarcomas, cysts, and all manner of minor work. A New Orleans surgeon reports 250 operations of various kinds, ranging all the way from amputation of the finger to amputation of the breast, without a single failure and with no untoward result.

Comparative tests prove that Apothesine is as efficient as any synthetic local anesthetic and more potent than most of them. Its toxicity is low, being far less than that of cocaine and no greater than that of the least toxic of other synthetic anesthetics.

Apothesine is supplied in hypodermic-tablet form, as follows: H. T. No. 216, each tablet containing $1\frac{1}{4}$ grains of Apothesine; H. T. No. 217, each tablet containing 3-5 grain of Apothesine and 1-

1600 grain of Adrenalin; H. T. No. 218 (dental), each tablet containing 1-3 grain of Apothesine and 1-2500 grain of Adrenalin.

The Prevention of Secondary Hemorrhage.—Leval (La Presse Medicale), classifies secondary hemorrhage as capillary that coming from vessels of small or medium size and that coming from vascular trunks. Hemorrhage from vessels of medium or large size is that which is attended by serious danger. It occurs in its secondary form from infected wounds. Secondary hemorrhage indicates inadequate disinfection of the wound and is a reproach to the surgeon who has it in charge, except in the presence of an injury to a sizable blood-vessel. He therefore strongly advises in treatment of wounds, in addition to thorough cleansing, that a systematic examination be made of any large blood-vessel or blood-vessels which may lie in the course of the vulnerating body. He quotes numbers of instances showing that severe and at times fatal hemorrhage is traceable to an unsuspected wound, which, had it been found at the time of original surgical treatment, would have called for tying of the blood-vessel. Whilst he believes that these secondary bleedings are dependent upon infection, he points out that this infection may be so light and so well concealed that it is not suspected by the surgeon until hemorrhage occurs.

Treatment of Placenta Previa.—Hellier (British Med. Jour.) in treatment of placenta previa discussed the field of Cesarean section. The writer believed that the majority of obstetricians agree that when a patient has had one well-marked hemorrhage that the pregnancy should be terminated without delay. If the patient was not in labor and uninfected and the services of a competent obstetric surgeon could be procured there was much in favor of Cesarean section. The doctor described the case of a patient who had a severe hemorrhage who was treated expectantly, and who died during a second hemorrhage while an attempt was made to perform version. In two other cases he had operated so soon as hemorrhage occurred, patients should be immediately sent to a hospital so soon as hemorrhage developed. This did not mean that all should be treated by section, for many could be delivered in other ways, but the facilities of a hospital are necessary in the treatment of these cases.

RECONSTRUCTION OF THE DISABLED.

By Jas. T. Nix, B. S., M. D., Professor of Surgery, Loyola Post Graduate School of Medicine, Chief of Orthopedic Service No. 4, Charity Hospital, New Orleans, La.

Looking out from the door of a foundry one sees in some far off corner of the yard a heterogeneous pile of scraps, scraps without identity. These are no longer cast away, hauled to the dump, as once they were, but are assorted, worked over, moulded, and with very little effort converted into most useful necessities of life.

So also may be compared the numberless thousands of invalids whose sole mission in life is either parasitic, because of helpless infirmities, or, if not entirely dependent, the sum total of their activity is the performance of some most unimportant function not having sufficient import to be called a vocation. Many of these remnants from the scrap-heap of human entities, if studiously analyzed and classified, if the reason of their disability together with logical procedures of reconstruction be accurately ferreted out—skillful surgical execution would transform these physical and social outcasts into most useful members of society.

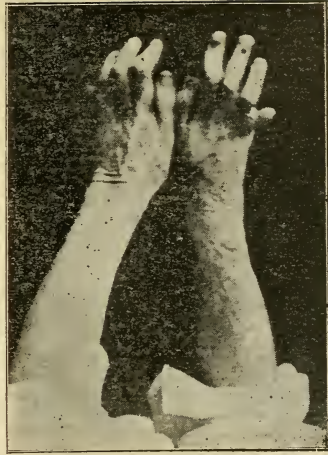
Countless thousands exist today, numberless millions have since passed out, what an endless store the future will supply. If we, the healers of mind and body, sit idly by offering no relief, but watch the invalid numbers grow while their disabilities become progressively worse—at the time of final reckoning many a black mark will appear on the debit side of our account which we shall be unable to satisfactorily explain.

With the newer knowledge of surgery at our command, especially plastic and bone surgery, these human discards or at least many of them, could be rebuilt and made not only self-supporting but most valued by the community at large.

Report of Cases.

The patients here enumerated were hospital chronics, genuine surgical eye sores, suffering, anxious, and none the least less querulous—unfortunates. After months of internment in the hospital, with little or no treatment, they were finally discharged and told that nothing further surgically could be done. Despairingly, after seeking relief from every angle, they applied to our service for treatment.

Case No. 1—A. Q., beautiful girl, 24 years old, intelligent, ambitious, previous



CASE NUMBER ONE.

Miss A. Q., before operation. Note the pronounced sunken out appearance over knuckles of right hand, due to extensive and firm contractures. Thumb is completely adducted; finger tips are ankylosed in hyperextension. Left hand presents an appearance more nearly normal, and permits of limited motion. The right hand is absolutely useless.

occupation, cashier. At the present time she cannot work because of her deformity.

Previous History: January 10th, 1914, while ironing clothes, her dress suddenly caught fire and in protecting the face the back of both hands suffered severe third degree burns over their entire surface. During the process of resolution no attention was paid to the position of the fingers, consequently extensive webbing, unyielding contractures, and crippling fixation of the finger tips in hyperextension resulted. Patient has had three operations performed at the hospital to correct the webbed fingers, the result being quite satisfactory except as to the thumb of right hand which is still webbed to the first digit. Absolutely nothing has been done to correct the contractures and scars in order to secure usefulness. Patient has given up hope of ever using the right hand again, and is trying to develop left-hand technique.

Present Illness: Extensive scars and dense cicatrixes cover completely the dorsal surfaces of both hands, the right one being totally disabled so that even the slightest motion of the fingers is impossible and they are fixed in a position of



CASE NUMBER ONE.

Miss A. Q., after operation. Right hand is held over that part of abdomen from which graft was taken. Note particularly the fullness (convexity) over knuckles showing padded graft which was transplanted, flexion of finger tips, and abduction of thumb of right hand. The left member is now far more unsightly and less useful than its mate.

extreme hypertension at the metacarpophalangeal articulations of the fingers, one hundred and forty degree flexion at the middle phalangeal articulations, and hyperextension of one hundred and fifty degrees of the finger tips. The terminal and middle phalangeal articulations are completely ankylosed due to destruction of the joint surface at the time of the burn. In many places on the back of hand only a thin scar covers the bony structure beneath. The flexor tendons and the palmar surface of the hands are unaffected.

The left hand was not burned nearly so badly as its mate and some motion is possible.

The thumb of the right hand is completely adducted and fixed in this position by a dense cicatrix. Flexion of the fingers is impossible and tips of the digits cannot be brought closer than three inches to the thumb tip.

Patient is right handed, therefore, she is totally disabled.

Treatment: For the left hand simple massage, manipulation, and hot applications will suffice.

For the right hand the following were performed, viz., 1st. Operation. Object

to replace dense scar tissue on the back of hand with healthy skin which would permit of manipulation. A transverse incision was made over the knuckles and the scarred area over the metacarpals very easily retracted out of the way, exposing the remains of the extensor tendons which were firmly matted together, the identity of all being lost in the mass. The hand was now approximated to the abdominal wall and a large pedunculated flap of skin and fat, four inches by four inches was transplanted and sutured to the denuded area on the back of hand. Immobilization was accomplished by means of a plaster of paris cast including the right arm, hand, and body. The cast was kept on for six weeks after which time the graft had firmly united to the hand, so with novocain anesthesia the pedicle was divided from the body, and in a short time of two weeks the hand had entirely healed, a well padded flap of skin having replaced the dense cicatrix there before.

2nd. Operation. Object, to correct extreme adduction of thumb and permit of complete abduction, to correct ankylosis deformity with the finger tips in extreme hyperextension. The dense scar adducting thumb was incised and a pedunculated flap of skin and fat was transposed from palmar surface of hand to the widened incised area produced by holding the thumb in extreme abduction.

Ankylosis of terminal phalanges was broken by manipulation and the finger tips held in one hundred and sixty degree flexion, a little less than a straight angle. Plaster of paris was now applied holding the thumb and fingers in the corrected positions, immobilization being kept for three weeks.

3rd. Operation. Object, to permit approximation of thumb and finger tips thereby permitting entire usefulness of the flexors. By manipulation under ether anesthesia this was easily accomplished as all of the contracting scars had been replaced by healthy skin and fat. Plaster was again applied, the thumb tip being adducted so as to meet the tip of little finger, this position being maintained for three weeks.

This intensive treatment covered a period of eight months, after which passive motion, massage, manipulation, and external heat constituted the daily role in the re-education of the hands.

Result: The first three fingers and thumb of both hands have regained all of their lost nimbleness. The young lady



CASE NUMBER TWO.

P. M., Feb. 10, 1917, one year after operation. Shoe shows a four inch elevation of sole, the amount of shortening of right limb before treatment. Both limbs are now equal in length. There is no disturbance in gait.

writes almost as well as she did before and is again employed as cashier for a concern that handles a large amount of small change. The hands cause her absolutely no inconvenience in the performance of her duties. The right is by far her best hand.

Case No. 2.—Peter Miller, 15 years old, high school boy, very bright in his studies, but because of the crippling deformity resulting from a fractured femur, he could not climb stairs and was forced to abandon school.

Previous History: In January, 1916, on returning from school in an automobile, the car, while traveling at the rate of about twenty-five miles an hour, struck a wagon throwing the boy completely over the hood in front of the car. The right femur was badly fractured and boiling water from the radiator caused severe burns of the leg and thigh. Because of this complication probably, vicious union resulted with two inches over-riding, or four inches of shortening. He was dis-

charged from the hospital in this condition and advised not to have anything surgically done as it would probably make matters worse. He was referred to a shoe maker who in turn made for the boy a shoe having a four inch sole of cork. On seeking other medical advice the boy's father was always told the same thing as was told at the hospital.

Present Illness: The right leg is four inches shorter than the left one because of vicious union resulting from over-riding fracture. The break is at the middle third of the thigh.

Treatment: The open operation was performed with the center of the incision corresponding to the mid point between the ends of bone, and continued longitudinally above and below for three inches over outer lateral aspect of thigh. The ends of the bone were freed and reduction was easily accomplished by forcible extension. A graft six inches long was then taken from the opposite tibia and placed intra-medullary between the fractured bone ends, thereby maintaining good alignment. A plaster of paris spica was then applied and kept on for six weeks.

Result: Perfect union without shortening. The boy has returned to school, received his high school diploma, and is now employed as wireless operator on a large South American vessel. Though the boy is only seventeen years old he is earning a salary of seventy-five dollars per month.

Case No. 3.—A. G., 24 years old, strong, healthy, intelligent boy, in excellent physical condition.

Previous History: At the age of sixteen he was injured in a railroad accident, sustaining a depressed fracture of the skull. Craniotomy was immediately performed in a country sanatorium and a section of skull two inches in diameter was removed, nothing being left to replace it. Since this time he has been unable to do anything but the lightest kind of work and for the two years prior to being admitted to our service, he has been employed as ward man, elevator boy, and other menial positions in the Charity Hospital and private institutions of New Orleans. His maximum salary has been twenty dollars (\$20.00) per month.

Present Illness: Over anterior portion of the left parietal bone can be seen a depression in which the bony structure of the cranium is entirely absent and the pulsating brain beneath is covered only by scalp, there being no real protection whatsoever. The exposed brain repre-



CASE NUMBER THREE.

A. G., after operation. Shaved area over scalp represents horse-shoe flap thrown back for exposure of defect in vault, irregular scar over surface is the site of first operation. The bone gap is now filled in entirely. Incision over leg shows the length of bone graft which was removed from flat surface of tibia.

sents an area of about six square inches.

Treatment: Operation. Two large bone grafts, one inch wide and two inches long, were removed from the flat antero-lateral surface of tibia (lt.). The defect in the skull was then exposed through a horse-shoe incision and the edge of skull freshened with a rongeur biting forceps so as to make a bed for the graft. The bone transplants were then laid and the incision closed with linen sutures.

Result: Primary union resulted, the

grafts lived, and, after four weeks, the former defect in skull was just as strong or stronger than any other part of the vault.

The boy is now doing skilled labor and earns four dollars and a half per day. He works regularly.

Conclusion: These striking illustrations of the lack of surgical thoroughness give us some small idea of the thousands of similar cases being constantly discharged from our best hospitals today. Proper methods of relief have been overlooked and the afflicted not given all to which they are entitled.

Let the mistakes of the past sound the warning note against repetition in the future, let them serve as the blasting of a mighty trumpet calling for more patient forbearance, more careful analysis, more exhaustive effort.

Before proclaiming the invalid hopeless and turning him away as a public charge, remember the grave responsibility that is yours, that very often your decision alone may determine the entire future of a life, whether it be a long, happy one of complete or modified usefulness, or an abbreviated sad one of inactivity and despair. Remember that a mistake once you make may never be yours to correct but may continue unrecognized to the end of time.

Numerous errors of the past predispose to the occasional recurrence in the future. Let such not be yours, for today they represent carelessness, thoughtlessness, crime, sin—a stain to your beloved country now at war, a crime against humanity, an injustice to your fellowman, an irreparable injury to one who, with childhood faith, most willingly placed his life in your hands.

Prostatic Troubles.

In the Prostatic troubles of men who are nearing or passing the meridian of life, as well as symptoms that are its concomitant, as difficult urination, sexual decline and premature decay, sanmetto is an indicated remedy. It is a remedy par excellence for these affections which befall men after the age of fifty. It is also a valuable remedy in case of ovarian and mammary affections in females. Sanmetto has been before the profession for a quarter of a century and has proved its right to stay. It is a soothing and building tonic to the reproductive organs and the uous surfaces.

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EDWARD C. REGISTER, M. D., EDITOR

CHARLOTTE, N. C.

FIFTY-FOURTH ANNUAL SESSION NORTH CAROLINA STATE BOARD OF MEDICAL EXAM- INERS, RALEIGH, N. C., JUNE, 1918.

Organized in 1859, just ten years after the organization of the present North Carolina State Medical Society, holding no sessions from 1861 to 1866, the N. C. State Board of Medical Examiners held its fifty-fourth regular annual meeting in Raleigh, June, 1918, and granted license to 49 of the 52 applicants taking the examinations, 3 failing.

The examinations were conducted with the careful earnest consideration which has ever characterized the work of this pioneer among state medical examining boards, and with a proper regard for the various interests entrusted to the board. The very marked contrast in the number of rejections now as compared with a decade or two past is striking evidence of the fine disciplinary influence the profession controlled state examining medical boards have exercised upon the diploma granting colleges of the country.

An examination of the lists of questions put (published in the July issue of *The Journal*), and comparing them with those used ten, or twenty years ago, evinces the fact that the organized profession of North Carolina, acting through the examiners elected from among its most accomplished and capable members, has at last began to come approximately within reach of the attaining of the long years ago cherished ideal of having every young doctor in North Carolina at least a well educated medical man at the very entry of the door to practice, or keep him out. Certainly with the small number of rejections and the carefully conducted examination, it is manifest that the reputation of the N. C. Board of Medical Examiners is so well established and firmly fixed in the minds of the young men of the state and nation they will not essay the task of securing license in North Carolina unless undoubtedly possessed of qualifications worthy of admission.

All honor to both our wise leaders of the earlier years when the license of the Board was only required for admission to the State Medical Society and in order

to qualify as an expert witness in the courts or to collect for professional services by suit (1859 to 1885), and equally physicians who since then have given of their best energies to the purpose of so conducting the annual examinations of the board as to maintain a high standard of professional acquirements and yet advance in the requirements at a pace the general educational status of the section and nation permitted.

Of the successful ones, two are women—Cora Z. Corpening, of Mars Hill, and Annie V. Scott, of Guilford county. Among the physicians licensed by reciprocity are two women, Mary V. Glenton, of Raleigh, and Margory L. Lord, of Asheville, the former passing her examinations in Indiana and the latter in Virginia. Among the successful State applicants are eight new colored doctors.

Albert W. James, of Laurinburg, led the class with a percentage of 94.7 while Denis R. Wolff, of Rural Hall, was second highest with a percentage of 93.61.

This year, the board had 75 men for examinations but 23 of them stood only the first half of the tests. They will take the remaining half two years hence. Of the 52 men who applied for license, about half took the complete examinations and the others took the final half. The class was about as large as last year's.

License by Examinations.

The following applicants were granted license by examination:

Hugh M. Beam, Woodsdale; Samuel McD. Beckford, Raleigh; Mallory V. Burrus, Rockford; Edson E. Blackman, Raleigh; John B. Bonner, Bonneton; Howard J. Combs, Columbia; Henry L. Cook, Jr., Fayetteville; Cora Z. Corpening, Mars Hills; James G. Dickson, Rockford; Clinton S. Dietz, Lumberton; Carl E. Ervin, Troutmans; Alfred L. Gaither, Statesville; William H. Harrell, Williamson; Joseph P. Harrison, Whitakers; James Hawfield, Matthews; Roy W. Hayworth, Ashboro; Vonnie M. Hicks, Greensboro; James DeCosta Highsmith, Fayetteville; Duncan W. Holt, McLeansville; Albert W. James, Laurinburg; Daniel L. Knowles, Mt. Olive; Henry G. Lassiter, Weldon; Benjamin J. Lawrence, Raleigh; Charles P. Mangum, Kinston; Vann M. Matthews, Matthews; Lee O. Miller, Asheville; Robert C. Miller, Hays; Julian A. Moore, Wilmington; James P. McCain, Southern Pines; Brodie B. McDade, Hillsboro; Oscar L. Parker, Clinton; Samuel F. Parker, Mt. Olive; Golan S. Perry, Raleigh; James M. Peterson, Spruce Pine; John D. Quick,

Rockingham; Daniel C. Reyner, Philadelphia, Pa.; Joseph H. Robinson, West Point, Ga.; Annie V. Scott, Greensboro, Route No. 6; Samuel F. Scott, Mebane; Claiborne T. Smith, Scotland Neck; Hugh P. Smith, Timmonsville, S. C.; Samuel C. Spoon, Jr., Haw River; William H. Sprunt, Jr., Wilmington; Claudius A. Street, Linville Falls; Leslie O. Stone, Kittrell; Henry B. Wadsworth, Cove City; James H. Wheeler, Camden, N. J.; Denis R. Wolff, Rural Hall; Fred G. Woodruff, High Point.

Licensed by Reciprocity.

The following were granted license by reciprocity:

Chas. Beers, Asheville, (Ohio); Geo. W. Belk, Laurinburg, (South Carolina); A. P. Bohannon, Virgilina, Va., (Virginia); Arthur T. Browne, Winston-Salem, (New York); J. H. Carnelley, Charlotte, (Michigan); Marcus L. Dillon, Asheville, (West Virginia); Mary V. Glenton, Raleigh, (Indiana); W. Conyers Herring, Charlotte, (New York); C. C. Hudson, Charlotte, (Virginia); S. R. Jordan, Virgilina, (Virginia); H. Lee Large, Rocky Mount, (Virginia); Margery J. Lord, Asheville, (Virginia); H. M. Parker, Jr., Statesville, (South Carolina); L. L. Simmons, Greensboro, (Tennessee); W. H. Venable, Asheville, (China); F. L. Whelpley, Goldsboro, (Missouri); T. H. Worrell, Mt. Airy, (Virginia); James T. Walker, Winston-Salem, (Mississippi).

PREJUDICE.

Nations are fighting; religions are fighting; medicine is fighting, Why?

The definition of the above title—an opinion based upon theory; an argument without a premise, should, in the minds of all thinking men suggest the cause.

It might be possible, that early feudism was brought about by religious differences and still continues, for we always have before us an advocate of some particular sect, struggling to tear down some other form of belief. No better illustration can be given that the fact that Kaiser Wilhelm has convinced his people that he has been chosen of God to rule the world. Since it is an accepted fact that the Saviour of the Universe was born in a manger it does not prove that the Almighty would choose a mule or a degenerate to champion His cause. Who could convince a German of this, set, as he is, in his opinion. The free thinking, well balanced, unselfish people thing de-

mocracy stands for the good of the masses. Autocrats backed by militarism do not wish to believe so. The Germans believe that no one in the world should have an entity except themselves. Is the premise correct—"Kultur."

In the religious world there is one sect that believes no other will enter the Kingdom of Heaven, and were it possible to do so, they too would thrust their belief upon the rest of the world by means of the sword.

In the medical world, one sect believes no others are right, and, too, would thrust their opinions upon them by force, only they are not so strongly organized as the former two great world powers.—"Regulars."

The Christian Scientists would head the list were they considered in the field of medicine, but since they belong neither to the field of medicine nor to the religious world, they are better not discussed.

Among nations, supremacy is demanded by an exhibition of physical force; among religions by force of threats of future punishment; among medical men, a subtle power is used, in many cases more effective than tyranny, unfortunately exercised by those of the medical profession to be most feared—the certain ones, those able to wield a strong influence among the weaker members of their organization, those who are able to bring calamity to those who dare trespass upon the sanctity of their accepted theories, theories having no premise upon which to stand "Politics." Make these men look up to the fields of investigation now going on throughout the civilized world; drive from them all personal interest, then there will be no cults, and when this shall have come sure enough we will arrive at the long looked for millenium.

Can prejudice be stamped out? Yes! it is stamping out. Theory is relegating to the brotherhood of ignorance. Such institutions as the Rockefeller Research Institute, insane asylums, homes for consumptives, etc., headed by men selected for their adaptability for some particular line of investigation, will force upon the medical profession a unity of opinion, but only when the weight of its influence shall crush all opposition in the line of theory, inspiration or self-interest. This will bring to light the stronger characters in the medical profession; those who have sufficient mental strength to acknowledge they do not know, but are willing to find out; those who base their knowledge upon an indisputable premise and set all prejudice aside.

EARLY RECOGNITION OF RECTAL CANCER. THE NEW YORK STATE BOARD EXAMINATIONS FOR MEDICAL LICENSE.

The possibility of immediate progress in arresting the inroads of cancer lies now in the hands of the general practitioner. The research workers have not yet isolated a casual organism or organisms, but all clinicians are now agreed that malignant disease is strictly localized in its initial stage, and capable of actual cure if discovered and destroyed or removed in this stage.

This brings the responsibility squarely up to the first physician who is consulted by a sufferer from cancer in its early stage. This early stage has been incorrectly called a "precancerous" stage, for a cancer is surely a cancer from the first microscopic invasion of a tissue cell. A better term is the "pre-malignant stage" of the growth, when all infected cells are surely in a certain spot, and the mass has not attained a great momentum to its riotous growth. The presence of such a growth in this stage is indicated to any physician with great probability on the discovery of a non-tender, non-painful, hard tumor that gives a history of slow, steady growth.

The detection of such a growth should lead to an immediate consultation, with a view to eradication by the modern method best suited to its character and situation, but it should not be incised for a specimen at this time, as the wound so made might permit metastasis to develop before the destruction of the growth. Microscopic study may be made at time of operation. Touch alone, detecting induration, associated with the clinical characters pointed out, is sufficient to recognize presumptive malignancy, and until physicians act on such diagnosis, so made, we will have no progress.

The application of these facts to the early discovery of cancer of the rectum is evident. So long as incipient cancer in this location is airily treated as a hemorrhoidal condition we will have a continuance of the usual debacle.

No special armament of speculum, headlight and trained vision is needed to diagnose an incipient cancer in the lower and middle rectum so long as the physician possesses a properly trained forefinger. Even the dislike to soil the finger may be overcome by the handy and inexpensive finger cot. If the alleged hemorrhoid be found indurated and not tender to touch one should believe the worst. Pain will not be present in this early stage.

A "Mr." Geo. M. Wiley, "director examinations and inspections," reports on the recent examinations by his board for medical license in New York State, held at Albany, Buffalo, New York City, and Syracuse, N. Y., in January, 1918. The examinations covered eight subjects, included eighty questions and an average of 75 per cent. was required to secure license to practice medicine in New York state. 103 physicians took the examinations, of which number only 60 were licensed while no less than 43 failed. Those passed represented 24 leading colleges of the nation, including two of the best of the Canadian schools and one European University, while the 43 failing were graduates either of 1917 or some year since 1912, of such reputable colleges of medicine as Harvard University, Atlanta Medical College, Boston University, University of Michigan, Columbia University, Albany Medical College, N. Y. Medical College for Women, University and Bellevue Medical College of New York City, University of Buffalo, Medical College of Virginia, McGill University and Queens University, the two latter being of the best Canadian schools.

The movement for the securing of a higher standard of medical education was inaugurated by the doctors themselves more than two generations since back in the 'forties, and always had the cordial and unstinted support of the leading members of the profession. For more than a couple of decades it has been taught by those high in technical educational authority, and concurred in by the profession at large, that given a degree of preliminary education including at least two years of college training, plus a four year's medical college tutelage, with an added year in hospital, should and would suffice to so prepare the physicians that there could be no question of their having proper educational attainments.

Under the stimulus of a strong professional sentiment along this line and with material sacrifices by their faculties the small medical schools of the nation have passed away, probably never to return, but the record of the N. Y. Board as presented by "Mr." Wiley does not appear to indicate that there has been very much improvement in the educational attainments of the physicians applying for license in N. Y. State. Certainly such record is far from satisfactory when view-

ed from any standpoint. Have institutions highly respected by the medical profession the earth over as Harvard, Bellevue, Columbia, University of Michigan, McGill, Johns Hopkins, and the others, lowered their standards? We do not believe any fairly informed physician believes such is the case.

Will the physicians, and other fair-minded friends of higher education, feel perfectly satisfied with such a record of rejections for license of the graduates of some of the best medical school on earth, on examinations as reported by "Mr." Wiley, the "Director?"

We believe not. We believe the medical profession itself should control and direct all examinations for medical licensure, and the plan of the good old State of North Carolina, of having such examinations conducted by a state board of medical examiners selected with great and discriminating care, as they usually are, by the State Medical Society, is a very wise and proper arrangement and having been tried out since 1859 is well worthy, not only of continuance by ourselves, but is cordially commended to New York doctors as affording them the most satisfactory method of determining just who is fitted to have medical licenses in that state. Certainly such power ought never to be placed in the hands of a layman "directed" board.

PATRIOTISM IN WAR-TIME BY DOCTORS.

That the members of the medical profession of the Old North State as the other sister states of the South have shown the highest type of patriotism in their early and ready response to the call of the Nation in the present war admits of no argument, the bare facts establishing beyond all future cavil that "the physician is, as a rule, the flower of our civilization, and will be shown to have best exhibited the graces, and least the foibles of the race," as the lamented Stevenson so tritely said.

From every section of the state, from the immense majority of the counties of Carolina have come the leading practitioners of every age from the sextenarian to the recent graduate, alike eager to stand for the eternal principles of Democracy, to avenge the ravages of the dastard and damnable Hun, and to strip him forever of power to again disturb the orderly movings of civilization. In the few counties where there were no early volunteers, the patriotic action of the State Medical Society at Pinchurst in April last

awakened and quickened into action the dormant impulses, and the volunteerings for service as well as the prompt removals to places vacated by brave manly doctors who had gone at the first call of duty, showed the appreciation on all sides of the fact that the doctors are the most patriotic of citizens, and not afraid to stake their all on the altars of human rights.

On every hand has been heard appreciative acclaims of the men of our guild who have exceeded all others in the extent of their offerings of service and have enrolled in the Medical Reserve Corps of the U. S. Army and Navy. This is both their just desert and the rightful expression of sentiment given forth by a discriminating public which in the end may usually be safely trusted to inscribe the meed of proper praise on the seal of the deserving. But while the records are being made, and the names of the citizen doctors of medicine all over the state and Nation are begraven on an imperishable roll of honor, discriminating thinkers will pause a moment, and without detracting one single jot or tittle from the deserved encomiums being showered on these, will ask are there not others of our noble profession who though not enlisting to face if need be the enemy of civilization, are yet engaged in human service in a variety of ways and to an extent equally worthy of the highest praise?

Unquestionably the calls to duty have been answered by many physicians who heard a mandate that they must earnestly and laboriously fill the vacant spaces left by the soldier doctors, that with increased exertions their patients left behind in civil life must be cared for. In addition the enormous amount of extra professional work incident to the mobilizing of the millions of soldiers has necessitated and continues requiring a vast quantity of intelligent medical work at the hands of the doctors who are at home wrestling with their greatly enlarged duties on these and other lines. No roll of honor for Carolina doctors will ever be complete which does not record the magnificent and helpful labors of the physicians who put aside, as many of them have truly done, the loudly repeated and clamorous calls for the more heralded service in the khaki, to remain and quietly minister to the women, and the children of those who have gone to the service, besides take up important functions incident to good citizenship. The work of medical gentlemen all over the state in Council of Defense, Red Cross, Food Conservation, War Savings Stamp and bond sales, noble the

names of distinguished doctors of medicine like Anderson of Statesville, Knox, and Royster of Raleigh, Parrott of Kinston, and a far greater number whose faithful and helpful endeavors have aided the noble purpose of the hour, but whose names, if even known (and most of them are not), do not happen at the moment to occur to the writer. In the hours of national travail it is indeed a joy and an inspiration to realize that one is a member of our noble profession whose members are so superbly meeting the duties of the period in manifold ways.

PUBLIC HEALTH OPPORTUNITIES AND THE WAR.

There are in the employ of the State and local health organizations in this and other states a considerable number of medical men whose finer sensibilities have been for months literally upon the rack of conflicting impulses, emotions, and desires. Earnest capable men, living in close contact with both the people and the world thought of the day, strong indeed has been their wish to enter the army or navy for the period of the war. In a number of the states, the extent to which their employees have severed their relations with public health activities, thrown aside the claims of the community needing health service as never before, and rushed to the front, has seriously operated to cripple greatly the usual efficiency of the health services.

Just how far such action on the part of employees of health boards, state and local, is justifiable is a question admitting of serious discussion, having as do most questions, more than a single side. Doctors working as health officers certainly can but be actuated by the same wish to help serve the Nation as other physicians. On the other hand, in times of war, the opportunities, and the necessities of public health work are greatly increased, and the work, while not possibly so dazzling as putting on the uniform and going forth as a soldier of the Nation, is just as much needed by the country. Again, the obligation assumed by a health officer in accepting such responsibility may not be lightly laid aside, just because there is a clamorous call for doctors from the heads of the army and navy service, or because the community begins to ask why he has not volunteered. No matter to what extreme the vast resources of men and money of our Nation may be called for in this war, it is always to be remembered that even though we

mustered into service, as we possibly may ere the end is accomplished, six, eight, or ten millions of men, all of the time, there will remain here in America, the homes of all the soldiers, and all the people, the women (except the blessed helpful nurses whose good work may not be overvalued) the children, the "seed-corn" of the coming generations—all this will be here, greater privations than have yet come to us, want—things which make for greater human misery, and greater necessities and opportunities for public health service will be manifest.

With these thoughts in mind, it is certainly true that with very, very few exceptions, the average health officer should, and ought to stand by the ship of his former election in the hours of its possibly greatest peril and need for service, and we trust the physicians occupying important public health positions in North Carolina will be able, as it has so often been the lot of our good conservative citizenry to do in many previous national crises, to set a proper example and stay with their great opportunities of health service to all the people.

WOMEN AND THE WAR. WHITHER ARE WE DRIFTING?

That the women of this and every other nation on the globe today are exercising important functions, hardly believed possible in generations past, in their daily assumption of new duties in industrial and economic fields, is a factor to be reckoned with in gauging an estimate on both the duration of the war and also in forecasting its remoter effects.

The rapidly increasing entrance into, and efficient service of women, in masculine labors of severer forms, and the virility and perseverance she is bringing to bear she deems her newfound duties can but yield from man congratulations. Yet while this is going on, it is to be recalled with an inevitable degree of pain, that with these newer activities, too many women are assuming in constantly increasing number, it is feared, the assumption of the minor vices heretofore regarded as, in the main, the faults of the opposite sex, cigarette smoking, drinking, swearing, and with these a growing irreverence for chastity.

That men are paid a questionable compliment in this imitation is doubtless true, but the price is too heavy, especially when it is recalled they necessarily continue to carry, more or less, the weight of the sexes' own peculiar emotional im-

perfections, its subtlety, its macroscopic conceptions of things distinctly microscopic, as well as the inability to defend itself successfully when attacked by masculinity in the field of femininity fairest charms. The important, and oft recurring periods of menstrual activity, with attendant inconveniences, and the more exacting influences of pregnancy, have been viewed as most helpful to woman in restraining her rather too rapid flight in the direction of masculine affairs. The latter she may, and in increasing numbers, does evade, but to the former habit she is irrevocably chained and cannot escape its hindering power.

The study of the female types of savage races well emphasizes the fact that despite her peculiar physical handicaps, women may, and can, if properly trained, attain a degree of physical prowess entitling them to cope with the males of their kind, and assuming, as she seems likely to do in the near future, the right to fight with talon as well as tongue, we may come in time to realize that women doing field and other manual labor, will develop a hitherto unused musculature which will place her, not only along side of man on the field of agriculture, but of battle as well.

Our girls are vieing with their brothers in the higher educational attainments, every place of business is being invaded by women, and gradually, but very certainly, every government on earth is extending to the sex equal political opportunity. With this tremendous revolution in human thought and practice there is likewise a growing demand for a higher moral attainment by the male sex, finding itself expressed in more rigid scrutiny of the physical state of applicants for marriage license, and increasing knowledge by laity of both sexes of the direful effects of venereal infection.

Where will it all end? None are quite wise enough to fully see the end, but there is an abiding conviction in our mind that humanity will through it all continue to evolve higher types and finer specimens of the race.

NECESSITY KNOWS NO LAW.

The rapidly increasing fighting forces of the United States Army, so familiar to every doctor who reads the lay papers, must impress him with the fact that the Medical Reserve Corps must keep a pace in the way of expansion.

With every thousand men in the fighting forces, there must be ten medical officers, so it is a matter of simple calcu-

lation to figure the requirements of the Surgeon General's Office in the number of medical officers that must be at the command of the Surgeon General when required.

With three million men in the United States Army by the end of August, this means 30,000 doctors, and there are now less than 20,000 on the active list of the Medical Reserve Corps. In addition to the number required for immediate assignment with troops, a large Reserve Corps should be at the command of the Surgeon General so that when the necessary number is required, they will be at his disposal.

The doctor is the most favored of all professional men in the matter of his assignment. The lawyer, as an example, when drafted or when he voluntarily offers his service and assigned to duty, draws \$30.00 a month pay. The lowest pay accorded a medical officer is \$2,000.00 a year with additional pay for commutation of quarters for dependents.

It is the belief of the Surgeon General that a sufficient number of physicians will voluntarily come forward and offer their services as medical officers and we therefore must do our duty not only to our country, but to those who are so admirably conducting this war in which we are now engaged.

A large and well trained Medical Corps is absolutely essential as 80 per cent. of the casualties are returned to the line through its ministrations and it must not be a matter of history that a sufficient number of medical officers have not volunteered their services to properly care for the mobile forces, attend the wounded and sick in hospitals and to supply the Surgeon General, whatever the demands might be.

Five thousand physicians a month for an indefinite period is the requirement and those doctors who are of the opinion that other physicians in their immediate neighborhood are better qualified or have less responsibility than themselves, should, in view of the crisis now facing us, subjugate their individual opinion and apply to their nearest Examining Board for a commission in the Medical Reserve Corps.

A Medical Reserve Corps should be what its name implies, a Corps of reserve physicians upon which the Surgeon General may call and this country to day should have a Reserve Corps of not less than 50,000 doctors and every physician should feel it his duty to be part of this Organization.

PHYSICIANS' CERTIFICATES AND THE U. S. SELECTIVE DRAFT.

A review of more than 6,000 certificates given by regular practitioners of medicine to young men within the selective draft age and presented by them to their respective boards reveals on the part of a no inconsiderable portion of our profession a readiness to make professional statements in writing that breathe far more of a disposition to favor their friends rather than stand for the facts in such cases. That some physicians have been kindly careless in such matters has been a matter of more or less common observation by the draft boards sitting in various sections of the nation.

It is of interest to note that the doctors of no special section of the nation have manifested a greater disposition to be obliging to draftees, and strange as the statement may read, the practice of giving certificates of questionable character has not been confined to the educated, or less educated men of the profession. The men regarded as eminent along with cross-roads village practitioners, have apparently been forgetful of their duties to the nation, to the drafted men seeking to evade service, to their own sacred honor.

No man lives closer to the average human being than does the physician, especially the doctor in general practice, none is so keenly appreciative and considerately sympathetic of the wish of his patron, but medical gentlemen should in this hour of national peril absolutely refuse to consciously, or unconsciously, lend themselves to schemes to secure the defeat of the logically honest and fair selective draft system for securing needful recruits for the service. Excellent people, persons of the very highest social, financial and other rank, patrons of many years, close friends whose good will is greatly to be desired, are making demands on physicians, are seeking to use their certificates, to secure exemption from military duty for sons, nephews, or other young kinsmen.

The time was in North Carolina, and other states, when the masses of the laity expect their medical adviser to favor them with a prescription for alcoholism if called upon to do so, but a higher ethical standard, both within and without the confines of the profession, frowned upon such practice, and it ceased, and in its place grew the conviction that the custom was not only vicious in morals, but literally criminal.

The same thought must prevail in this

matter of certificates of existing or suspected disease in either young men of the draft age, or of their immediate dependents and medical men must realize that the sending of such credentials to a board is vicious and criminal, and the signer of any such medical testimonial has been guilty of conspiracy against his government as well as falsified and degraded both his personal and professional honor.

With the continuing of the war, and the constantly recurring calls for more soldiers, the activities of the federal government will become greater, and naturally enough, with the continuance of such careless and criminal practice on the part of some physicians, it is merely a question of time until the sad spectacle will be presented the good people of North Carolina of seeing some hitherto highly esteemed member of the medical profession haled into the U. S. courts and compelled to defend his questionable action.

EDITORIAL NEWS ITEMS

Dr. R. H. Johnson, Baltimore, Md., has located in Charlotte, North Carolina. We understand that Dr. Johnson is a specialist, devoting his attention to the diseases of the eye, ear, nose and throat. We note that his former address was 807 North Charles St., Baltimore, Md. His subsequent address will be South Tryon St., in the building now occupied by the Greater Charlotte Club.

Dr. Hudson Will Return to Danville.—Dr. C. C. Hudson, who went from Richmond to Danville, Va., as its first city health officer, and who resigned about a year ago to accept a similar position at Charlotte, N. C., will return to Danville in September. The City Council offered him a substantial increase in salary and made him a proposition which he accepted. Charlotte is making a strenuous effort, however, to have him stay there.—*Virginia Medical Monthly.*

The Board of Governors of the Greenville, S. C., City Hospital have arranged for the addition of improvements to the institution at an aggregate cost of \$130,000. Work will be commenced immediately. It is believed that the local professional difficulties in the management of the hospital have all been adjusted in a way calculated to prove satisfactory to all concerned and to improve the service to the community.

Dr. John B. Gibbes, Burnsville, N. C., has been elected County Health Officer of Yancey County. This county, one of the best of the mountain section, has only a population of about 15,000, and its example is one that might well be emulated by far richer and more populous counties.

Dr. A. W. Knox, Raleigh, N. C., has been appointed and accepted the responsible position of Medical Adviser to Gov. Thomas W. Bickett in his important duties relative to the selective draft of the North Carolina physicians, and the other vital matters engaging the chief executive's attention about which able professional aid is constantly needed, Vice Dr. J. W. Long, resigned. A former member of the State Board of Medical Examiners, and Ex-President of the State Medical Society, long recognized as one of the state's ablest medical men, and a gentleman of the highest type of integrity, his varied accomplishments coupled with a wide acquaintance with North Carolina doctors of medicine, and the possession of both public and professional confidence, Dr. Knox is admirably fitted for the position, and his designation by the Governor will give much satisfaction. Dr. Long, it is stated, will give his entire attention to the pressing demands of the commodious and attractive private surgical hospital recently constructed at Greensboro, N. C.

Dr. Carl V. Reynolds, Asheville, N. C., a widely known and popular physician of the mountain metropolis, was recently presented with a beautiful silver loving cup by the officers of the University Training Camp as a token of appreciation of professional services graciously rendered by him to the student officers taking the course of military training at Bingham School. The cup is of most artistic creation, beautifully inscribed, and was accepted by the Asheville physician in a speech attesting his appreciation both of the student body and their high purposes in preparing to do their part in the great war.

Verdict for the Defendant.—The case of C. C. Reynolds against Dr. L. A. Crowell and Dr. J. A. Gamble of Lincolnton, N. C., was settled on July 19th. The jury brought in a verdict that the plaintiff was not entitled to recover damages.

In this suit Mr. Reynolds sought to recover damages from Dr. Crowell because

of alleged lack of skill and on account of not properly setting the bone following the fracture of the hip of Mr. Reynolds some months ago. It was claimed by the plaintiff that because of some alleged negligence on the part of the physician, the bone united, leaving his leg in a twisted position. Mr. Reynolds is 80 years old. As we see it if he could use his limb at all the skill of the doctors was remarkable. Of course the jury thought that Drs. Crowell and Gamble were not to blame.

The Johnson County Medical Society endorsed the State Medical Society held in Pinehurst in the spring when it unanimously offered their services to the Medical Reserve Corps of the United States Army. The Society sent the following letter to Major Langston through the secretary of that society. The letter read as follows: "It gives me pleasure, as secretary of the Johnson County Medical Society to notify you that in a recent meeting of our society a resolution was passed tendering the services of the entire membership to class 1-B. Also a resolution was passed endorsing the action by the State Medical Society at Pinehurst, volunteering the action by the State Medical Society at Pinehurst, volunteering the services of the medical profession of North Carolina to the government of the United States."

Increase in the Medical Department of the Army.—An amendment to the Army appropriation bill has been passed by the United States Senate which adds two major generals and four brigadier generals to the commissioned personnel of the medical department of the regular army and permits the remaining officers from colonels down to be increased according to the provisions of the present law as the necessities of the case may require. The amendment also gives the President authority to commission four major generals and eight brigadier generals in the medical department for every million officers and enlisted men in the national army, the junior officers from lieutenants to colonels to be of the same ratio as at present provided for in the navy.

Dr. Thurman D. Kitchen, of the Medical Faculty of Wake Forest College, accompanied by twenty of the student body is attending the Officers Training Camp at Plattsburg, N. Y.

Army Doctor Sentenced for Neglect of Duty.—Charged with having contributed to and accelerated the death of a soldier through gross neglect of duty, in that a careless diagnosis was made with the result that proper medical relief was not furnished, an officer of the Medical Reserve Corps, stationed at Camp Dix, has been sentenced to be dismissed from the army and to serve one year imprisonment at hard labor.

Dr. Richard S. Martin died in Mt. Airy, N. C., June 23. He was born in Stokes County November 15, 1859. He later was educated in Baltimore, Md., and located in Stewart, Virginia. He was made an honorary member of the Virginia Medical Society in 1902. He was elected a member of the Medical Examining Board in 1892 and was several years secretary of that organization. Subsequently he was elected president of the Board and remained its president until the time of his death. He organized and successfully managed a hospital named Mothers' Home at Stewart, Va.

No medical man in Virginia took a more active part in the State Medical Society or in Medical affairs generally than Dr. Martin. He was a great medical man in that state. He was for many years associate editor of The Virginia Medical Monthly. He was a man of great ability and contributed a great deal to the uplift of humanity.

At the regular Spring meeting of the Board of Visitors of the University Medical Department of Virginia, leaves of absence for the duration of the war were given to members of the faculty who have entered the national service, the medical members of whom are, Drs. Wm. H. Goodwin, associate professor of surgery; Dr. Hugh T. Nelson, instructor in medicine; and Dr. Charles S. Venable, adjunct professor of chemistry.

The following is a list of graduates in the medical school with their appointments to hospitals, etc.

University of Va. Hospital, University, Va.: Drs. Edward R. Hipp, Newberry, S. C.; Geo. B. Setzler, Pomaria, S. C.; Wm. Henry Turner, Jr., Afton, Va.; Wesley L. Williams, Norfolk, Va.

St. Luke's Hospital, New York City: Dr. Horace G. Ashburn, Norfolk, Va.

German Hospital, New York City: Drs. Donald MacKenzie, Faulkner, Boydton, Va.; Edward W. Hollingsworth, Bel Air, Md.; Gustav Adolph Pa-genstecher, San Antonio, Tex.

Post-Graduate Hospital, New York City: Drs. Robt. V. Funsten, University, Va.; Virginius B. Hirst, Purcellville, Va.; Charles P. Howze, Marion, Ala.

U. S. Old Soldiers' Home, Washington, D. C.: Dr. Allen Tupper Hawthorne, Avan, Va.

Episcopal Hospital, Philadelphia: Dr. James Edward Marable, Newport News, Va.

Queen Victoria Hospital, Montreal: Dr. John Brooks O'Neill, New London, Conn.

New Haven Hospital, New Haven, Conn.: Dr. Wm. Wyatt Strange, Huntington, W. Va.

Philadelphia General Hospital: Dr. Brice Sewell Vallett, New Castle, Del.

U. S. Naval Medical Reserve Corps: Drs. Gordon Hitt Lightner, Haymarket, Va.; Halliburton McCoy, Asheville, N. C.; Roger David Mackey, Waverly, Pa.; Walton Rixey, University, Va.; Robert Scully, University, Va.; William Wirt Waddell, Charlottesville, Va.

N. C. Physicians Accepting Commissions in Army and Navy: Announced during July, 1918. (Original Commissions and Promotions).

U. S. Army Medical Reserve Corps:

G. Battle, Asheville.
M. J. Costello, Asheville.
W. L. Dunn, Asheville.
G. B. Lynch, Asheville.
J. T. Anderson, Charlotte.
S. R. Thompson, Charlotte.
L. O. S. Wallace, Concord.
N. G. Williams, Franklin.
J. A. Anderson, Gastonia.
C. P. Mangum, Kingston.
R. F. Yarborough, Louisburg.
D. C. Absher, Mt. Airy.
H. B. Rowe, Mt. Airy.
H. C. Warlick, Newell.
H. E. Rowe, Newton.
J. A. B. Lowry, Raymham.
W. T. Long, Roxboro.
P. S. Easley, Statesville.
M. A. Bowers, Thomasville.
J. H. Saunders, Williamston.
J. R. Williams, Asheville.
J. M. Russell, Canton.
J. R. Hege, Clemmons.
C. F. Stresnider, Goldsboro.
A. H. Hayes, Marietta.
J. M. Earnhardt, Rockwell.
W. D. Rodgers, Jr., Warrenton.
C. O. Abernethy, Raleigh.
G. V. Greene, Advance.
W. M. P. Jacocke, Elizabeth City.
C. F. Strosnider, Goldsboro.
W. C. Thomas, Raeford.

G. E. Bowdoin, Wilmington.

U. S. Navy Medical Reserve Corps:

R. W. Hayworth, Asheboro.
H. McCoy, Asheville.
W. P. Mull, Cascar.
V. M. Matthews, Charlotte.
B. J. Lawrence, Creedmoor.
W. A. Peters, Elizabeth City.
J. W. Gainey, Fayetteville.
F. Angel, Franklin.
S. B. Moore, Globe.
V. M. Hicks, Greensboro.
F. Sabiston, Jacksonville.
D. T. Hunter, Matthews.
D. L. Knowles, Mount Olive.
J. C. Joyner, Princeton.
J. G. Dickson, Raeford.
D. C. Reynier, Raleigh.
M. A. Hatcher, Rosehill.
A. L. Gaither, Statesville.
W. H. Harrell, Williamston.
J. P. Rousseau, Wilkesboro.
H. B. Conrad, Winston-Salem.
W. G. Guthrie, Charlotte.
M. A. Lackey, Huntersville.
H. D. Stewart, Monroe.
H. McCoy, Asheville.
V. E. Ervin, Troutmans.
B. W. Cox, Goldsboro.

North Carolina Physicians. Mobilization of Officers.—Recent orders to officers of the Medical Reserve Corps, U. S. Army:

To Camp Beauregard, Alexandria, La., base hospital, Capt. Paul H. Ringer, Asheville; Porter P. Vinson, Davidson.

To Fort McPherson, Ga., base hospital, Capt. James B. Bullitt, Chapel Hill.

To Camp Zachary Taylor, Louisville, Ky., for duty, from Army Medical School, Lieut. Floyd C. Shugart, Albemarle.

To Fort Barrancas, Fla., for temporary duty, from Camp Shelby, Lieut. Michael Saliba, Wilson.

To Fort Oglethorpe for instruction, Capts. James A. Anderson, Gastonia; Joseph J. Saunders, Williamston; Lieuts. Garland V. Green, Advance; Jesse M. Russell, Canton; Philip S. Easley, Statesville; Frank L. Thigpen, Tarboro.

To Hoboken, N. J., base hospital, from Camp Greene, Capt. James M. Covington, Jr., Wadesboro.

To Army Medical School for instruction, Lieut. John H. Bullock, Oxford.

To Fort Oglethorpe for duty, from Camp Upton, Lieut. Jacob H. Rozelle, Salisbury. For instruction, Lieut. Richard F. Yarbrough, Louisburg.

To New Haven, Conn., for duty, from

Camp Lee, Capt. Benjamin K. Hays, Oxford.

To West Point, Miss., Signal Corps Aviation School, for duty, from Camp Sevier, Lieut. Julius J. Barefoot, Graham.

To Army Medical School for instruction, Lieut. Frank J. Garriss, Lewiston.

To Biltmore, N. C., for temporary duty, Major William Leroy Dunn, Asheville.

To Camp Jackson, Columbia, S. C., base hospital, Lieut. Robert E. Abell, Chester.

To Camp Travis, Fort Sam Houston, Texas, base hospital, from Fort Oglethorpe, Lieut. Evander McN. McIver, Jonesboro.

To Camp Sheridan, Montgomery, Ala., for duty, from Fort Oglethorpe, Lieut. George F. Bullard, Elizabethtown.

To Fort McPherson, Ga., base hospital, from Camp Jackson, Major Charles S. Lawrence, Winston-Salem.

To Fort Oglethorpe for instruction, Capt. Arthur F. Reeves, Asheville; Lieuts. William T. Gibson, Batesburg; Junius R. Vann, Jr., Fayetteville; Edward C. McCless, Lake Junaluska.

To Camp Dix, Wrightstown, N. J., for duty, from Fort Oglethorpe; Lieuts. Arthur E. Gouge, Bakersville; Howland McN. Lancaster, Dolson.

To Camp Lee, Petersburg, Va., for duty, Lieut. Albert G. Horton, Zebulon.

To Camp Meade, Admiral, Md., with the board examining the command for tuberculosis, from Camp Gordon, Capt. Thompson Frazer, Asheville.

To Camp Sheridan, Montgomery, Ala., for duty, Lieut. Norman G. Williams, Franklin.

To Fort Oglethorpe for instruction, Capts. Michael J. Costello, Asheville; McLain Rogers, Clyde; Claude O. Abernethy, Raleigh; Lieuts. Arthur G. Boyer, Asheville; Charles F. Strosnider, Goldsboro; Kemp P. Neal, Monroe; from Camp Mills, Lieut. John B. LeGwin, Wilmington.

To Raleigh, N. C., State Board of Health, as epidemiologist, from Fort Sam Houston, Major Charles O'H. Laughinghouse, Greenville.

The following order has been revoked: To Army Medical School for instruction, Lieut. Frank H. Garriss, Lewiston.

Honorably discharged, Lieut. John M. Bearden, Lawrence.

Resignation of Capt. Charles De W. Colby, Asheville, accepted.

Dr. Henry C. Warlick of Newell, N. C., who recently graduated from the University of Maryland has been commissioned First Lieutenant in the Medical Corps of the United States army.

Physicians Must Report All Cases of Infectious and Contagious Diseases.—Only recently Dr. T. W. Shore of Boonesville and Dr. W. G. Leak of East Bend were convicted and fined in the local courts for not reporting the cases of typhoid fever, which they attended.

Women to be Admitted to Virginia Medical College.—A new era in the history of the Medical College of Virginia will dawn September 17 when women are to be admitted into the several schools—medicine, dentistry, and pharmacy. The announcement is coincident with the Government's request that more women qualify in medicine and its allied branches.

Five Gaston County Physicians were recently fined by a magistrate for failure to make proper reports of contagious diseases. The charges were preferred against Drs. D. A. Garrison, C. A. Pugh, R. E. Rhyne, Frank Robinson, and H. J. Erwin. The latter a colored physician.

The law compelling physicians to make these accurate reports is a good one, and it is well enough for all of us to promptly fall in line.

Dr. G. C. Godwin has moved to Williamston, Martin County, North Carolina, and has taken up the general practice of medicine. For quite a while he was Health Officer of Nash County, later he took work under the State Board of Health and was sent to Fayetteville, N. C. Later he joined the army and received the rank of Lieutenant, but on account of his health he decided to locate permanently in Williamston, N. C.

Dr. D. C. Absher, formerly of Henderson, North Carolina, was recently promoted to the rank of Captain in the Medical Corps of the army. Captain Absher was at one time president of the North Carolina Health Officers' Association, a work that has taken an important part in the health work in the state, and at the last meeting of the health association in Pinehurst, last spring, Captain Absher presided over the deliberation of that body. Captain Absher is now stationed at Camp Greene. He is popular and has the esteem and respect of his associates at the camp.

MAJOR SEALE HARRIS STATIONED IN PARIS.

In a recent letter received by Major Joseph H. Way of the Base Hospital, Camp Greene, Charlotte, North Carolina, from Seale Harris, U. S. A., now the distinguished Clinician and editor of The Southern Medical Journal of Birmingham, Ala., now located at 12. Place Vendôme, Paris, conveys some interesting data relative to Major Harris' activities "Over There." Volunteering early in the war he was stationed for some time in the Surgeon General's office at Washington where his aid was invaluable, later was ordered across and assigned to the important duties of editing the Medical Bulletin issued for the medical officers of the A. E. F. In addition to this work he is secretary to the Research Committee of the American Consultant in Digestive Diseases to some of the American Hospitals in Paris, commenting on the prodigious amount of work being done by the Research Committee, Major Harris writes:

"The trench fever work done by Major Strong and his associates is probably the best piece of work that has been done during the war. It places the louse in the same category with the mosquito and adds another public health problem to the United States, because it has been definitely proved that the infection of trench fever can be transmitted and the louse free from the human host as long as three months. It is therefore probable that there will be many trench fever carriers among the American soldiers returning to the States.

Dr. Pressly R. Brown, who was in the Medical Corps of the United States army was recently killed in France. We understand that he was at the first aid hospital which is practically on the firing line when he lost his life. He went into the army about a year ago and was commissioned a First Lieutenant. He was a native of Mecklenburg County, N. C., and was 34 years old. He was practicing medicine prior to the time he received his commission at Graham, North Carolina. Dr. Brown received his medical education at the North Carolina Medical College located in Charlotte. He later graduated in a Baltimore Medical College. Dr. Brown was a very talented and popular young gentleman. About a year ago he married Miss Donnie Cobb of Morganton, one of North Carolina's most accomplished young women.

Dr. William Mecklenburg Polk, of New York, who died recently was a southern man. Those who are at all familiar with the medical men of New York will remember him well and of course very favorably. He was a great teacher and had a remarkably attractive personality. He was educated at West Point and while there was drill master. He was Captain in the Civil War. Soon after the war he studied medicine in New York. After his graduation it was not long before he was on the staff at Bellevue Hospital. About 1878 he turned the most of his attention to Obstetrics and Gynecology, and was made professor of this department of the university in the city of New York. After holding this position many years, and after several of the medical colleges in New York consolidated, he went to Cornell University as dean, he served in many high places of honor. He was at one time the president of the New York Academy of Medicine. He wrote a great deal on Gynecological subjects. Dr. Polk was born in Ashwood, Tenn., August 15, 1844, he received the degree of M. D., from Columbia College in New York in 1869. He received the degree of LL. D. at the University of the South in 1894 and from the College of New York in 1904, and the University of Georgia in 1913. He practiced medicine in New York from 1869 until his death. He was possibly as well known and as favorably so, as any physician who ever lived in New York.

American Medical Editors' Association.—The forty-ninth annual meeting of the American Medical Editors' Association was held at the La Salle Hotel, Chicago, on June 10 and 11, under the presidency of Dr. George W. Kosmak of New York. One of the features of the meeting was the banquet on the evening of June 11, at which time Colonel R. E. Noble, M. C., U. S. A., spoke on the needs of the Medical Service; the Hon. Quinn O'Brien made an address choosing as his subject, "Is America Doing Her Best?" Colonel Charles Derclès of the French Army and A. Franklin Martin also made addresses. At the Executive Session resolutions were passed remitting the dues of members of the Association who were in the service. Other resolutions adopted placed the organization on record as in favor of the Owen-Dyer bill and also in favor of granting appropriate insignia and rank to women physicians who were giving war service equivalent to that of men

physicians. The Association re-elected its present officers for another year. They are Dr. George W. Kosmak of New York, president, and Dr. Joseph MacDonald, Jr., of New Jersey, secretary and treasurer.

Cervical Glandular Enlargement in Children, as Evidence of Infection.—Gunson, in *The British Journal of Children's Diseases*, reaches these conclusions:

1. Glandular enlargement is evidence of an infective process situated in the lymphoid tissue specifically drained by such glands. The flow of the lymph from the infected tissue is in one direction only, and each gland drains a definite and restricted area, the tonsillar lymphatics, e. g., passing directly to the tonsillar gland.

2. In the majority of cases of chronic cervical glandular enlargement the associated infection is simple in nature and quickly responds to appropriate treatment, the glandular enlargement subsiding as soon as the infective process is removed. Fourteen per cent. of scarlet fever patients, however, on discharge from hospital presented evidence of persistent throat infection (evidenced by glandular enlargement) in spite of energetic treatment.

3. Persistent cervical glandular enlargement in the course of scarlet fever was found to be associated with severe constitutional symptoms, and complications which included nephritis and arthritis.

4. When chronic cervical glandular enlargement persists in spite of local treatment of the throat, the lymphoid tissue involved (e. g., tonsils) is frequently the seat of a tuberculous lesion, the glands being secondarily infected.

5. Simple chronic glandular enlargement in young children is associated with malnutrition, and alimentary and respiratory disorders. When the glandular enlargement persists into adolescence, or develops, these patients suffer from apathy, exhaustion, and dyspnea on slight exertion. The symptoms are sufficiently severe to suggest cardiac disease, which careful examination fails to reveal. This association is so important that it indicates early and complete treatment—directed to the infective focus—in all cases of cervical glandular enlargement, including operative measures when required.

BOOK NOTICES

International Clinics, a quarterly of illustrated Clinical lectures and especially prepared original articles on treatment, medicine, surgery, neurology, pediatrics, obstetrics, gynecology, orthopaedics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene, and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world, edited by H. R. M. Landis, M. D., Philadelphia, Pa., U. S. A., with the collaboration of Chas. H. Mayo, M. D., Rochester; Sir Wm. Osler Bart, M. D., Oxford; Frank Billings, M. D., Chicago; A. McPhedran, M. D., Toronto; J. W. Ballantine, M. D., Edinburgh, Rupert Blue, M. D., D. P. H., Washington, D. C.; John G. Clark, M. D., New York; Arthur F. Beifeld, M. D., Chicago; Charles Greene Cumston, M. D. With correspondence in Montreal, London, Paris, Brussels and Geneva. Volume II. Twenty-eighth series, 1918. Philadelphia and London. J. B. Lippincott Company, 1918.

Contributors to Volume II (twenty-eighth series), Archibald, E. W., M. D.; Ayauud, Gaston E., M. D., Surgeon to the Maritime Health Department, France; Biggs, M. H., M. D., F. A. C. S., Surgeon to Rutherford Hospital, Rutherfordton, North Carolina; Blake, J. B., M. D., the Boston City Hospital; Brown, E. V., M. D., Cook County Hospital, Chicago; Combeleran, Clement, M. D., Ex-interne of the Hospitals of Toulouse, Toulouse, France; Drucek, Charles J., M. D., Professor of Proctology at the Chicago Hospital College of Medicine, Surgeon to Fort Dearborn Hospital, Chicago; Foster, G. S., M. D., Surgeon and Pathologist to the Hospital Notre Dame de Laoures, Manchester, N. H. Larkin, John H., M. D., from Strecker Memorial Laboratory, City Hospital; Laroque, G. Paul, M. D., F. A. C. S., Richmond, Virginia; Levy, I. J., M. D., from the Strecker Memorial Laboratory, City Hospital; Lewis, Dean, M. D., Professor of Surgery at the Rush Medical College, Chicago; Lind, James W., M. D., New York; Minor, Charles L., M. D., Asheville, North Carolina; Markoe, James W., M. D., New York; Muller, George P., M. D., Philadelphia, Pa.; Neff, Joseph S., M. D.; Stone, I. S., M. D., Sc. D., F. A. C. S., Professor of Gynecology, University of Georgetown, Washington, D. C.; Vaille,

E. M. D., Engelfontaine, France; White, Charles J., M. D.

This volume has a good many very fine illustrations that are thoroughly appropriate and illustrate the text well. As I have repeatedly stated in my former reviews of these quarterly volumes, I regard them invaluable. Personally they are referred to as frequently as any books that I have. They are peculiarly fine and interesting and no doubt contributes a great deal to our present knowledge on the subjects discussed.

Diseases of the Male Urethra Including Impotence and Sterility, by Irvin S. Koll, M. D., F. A. C. S., Professor of Genito-Urinary Diseases, Post-Graduate Medical School and Hospital; Associate Genito-Urinary Surgeon, Michael Rees Hospital, Chicago. Illustrated. W. B. Saunders Company, New York and London, 1918.

The aroused conscience of the nation, and the increased activities of the profession in general, along with the manifest determination of the federal authorities to diminish, and so far as may be possible, stamp out the incidence of venereal disease, in the U. S. Army, render the present an opportune time for the publication of Professor Kolls' excellent monograph. The text is concisely penned, practical, and illustrations of admirable type well embellish the volume. Both the specialist and general practitioner will find much of value in its careful painstaking teachings.

Noteworthy are the specific directions as to the marriage of gonorrhoeics, the concluding lines of which we quote:

"Fathers should interview their prospective sons-in-law to inquire into their genito-urinary condition as well as their financial status, who are more frequently consulted than are genito-urinary specialists regarding the gonorrhoeal history of their patients."

The widely known reputation of the publishers for excellence in book-making is maintained in the present volume.

J. H. W.

Tongaline & Lithia Tablets give such immediate beneficial effects for a condition due to faulty or defective elimination, manifested generally by headache, lassitude, insomnia, etc., and sometimes caused by over-exertion and lack of rest, that it is earnestly desired every physician would test them personally.

Samples from Mellier Drug Co., 2112 Locust St., St. Louis.

Miscellaneous.

INDIANA STATE MEDICAL BOARD QUESTIONS.

Examination Questions, June 17, 1918.

Physiology.

1. What is the function of the thyroid gland?
2. How is the lung tissue nourished?
3. What organs are controlled by the pneumogastric nerve?
4. What is the function of the pituitary body?
5. Name the proteins found in blood plasma.
6. How may the coagulation of blood be hastened?
7. Define muscular sensibility.
8. Define hemolysis.
9. What is the composition of the lymph?
10. Name the enzymes found in the pancreatic juice and give the action of each.

Chemistry.

1. What are the general characteristics of chlorine?
2. How do you test for free hydrochloric acid in stomach contents?
3. Give test for albumen, sugar and bile in urine.
4. What is the action of epsom salts in phenol poisoning?
5. Give symbols of each of the following: Magnesium, iron, oxygen and hydrogen.

Anatomy.

1. Give the origin, distribution and function of the third cranial nerve.
3. Describe the vermiform appendix, giving its relation and the external landmarks of its location.
4. Name the arteries through which blood would pass from the heart to the thumb.
5. Give the gross anatomy of the liver.
6. Describe the circle of Willis.
7. Name the bones of the cranium, including the face.
8. (a) Give the formation of the great sciatic nerve, and tell into what two branches it divides; (b) give the origin, course and termination of the internal saphenous vein.
9. (a) Name and describe the membranes which surround the spinal cord; (b) locate the inguinal group of lymphatic glands and tell from what structures they receive the lymph.

Bacteriology.

1. What bacteria are found in acute osteomyelitis?
2. What are the influences that tend to prevent unlimited multiplication of bacteria?
3. (a) What are ptomaines? (b) what are toxins?
4. What is the difference between anti-toxic and anti-bacterial sera?
5. How do the phagocytes combat bacterial invasion?

Pathology.

1. Describe the pathologic conditions found in congenital cystic kidneys.
2. What pathologic conditions are present in chronic interstitial nephritis?
3. Name the pathologic conditions that may affect the myocardium.
4. Describe the pathologic conditions present in atrophic cirrhosis of the liver.
5. Describe the pathologic conditions found in epidemic cerebro-spinal meningitis.

Materia Medica and Therapeutics

1. (a) Give poisoning effects of an overdose of gelseminum; (b) give poisoning effects of an overdose of belladonna.
2. Give specific therapy of apocynum can.
3. (a) Give indications for use of digitalis; (b) give contra-indications for use of digitalis.
4. (a) Give specific indications for aconite; (b) give specific indications for bryonia.
5. Name conditions in which you prescribe morphine (sulph.).
6. (a) State specific therapy of nuxvomica; (b) state specific therapy of strychnine (sulph.).
7. Give indications for use of the iodides (potash).
8. Write a prescription in which crataegus is one of the ingredients, and give specific indications for its use.
9. Give treatment for poisoning by oxalic acid.
10. Write a prescription in which salicylic acid is one of the ingredients, and give specific indications for the use of this prescription.

Medicine

1. Give treatment of lobar pneumonia.
2. Define tetanus and give treatment.
3. Give evolution of vaccination where it runs a normal course.
4. (a) Define endocarditis; (b) give treatment.
5. Give diagnosis of aortic incompetency and give treatment.
6. (a) Give indication for use of li-

bradol in pneumonia; (b) give indication for use of antiphlogistine in pneumonia.

7. (a) Give diagnosis of nephritis; (b) give treatment of nephritis.

8. (a) Give differential diagnosis of progressive pernicious anemia; (b) give treatment of progressive pernicious anemia.

9. (a) Give etiology of erysipelas; (b) give treatment of erysipelas.

10. (a) Give diagnosis of anterior poliomyelitis; (b) give treatment of anterior poliomyelitis.

Materia Medica and Therapeutics (Regular)

1. Mention the conditions which affect the dosage of medicines.

2. Give indications for the use of digitalis.

3. Give indications for the use of opium.

4. Give the therapeutic indication for the use of iodide of potassium.

5. Give physiologic action of urotropin, its dose and method of administration.

6. Give common name, and the therapeutic uses of sodium sulphate.

7. Describe the symptoms of hydrargyrism.

8. What are the therapeutic uses of sodium salicylate?

9. What is the composition of normal salt solution?

10. What do you regard the safest and most efficient antipyretic?

Physical Diagnosis.

1. (a) Define hemiplegia; (b) give causes.

2. (a) Define paraplegia; (b) give causes.

3. Give technique of the clinical examination of the blood.

4. (a) Give manner of testing the motor power of the stomach; (b) give technique for obtaining contents of the stomach.

5. Give diagnostic results from the physical examination of the kidneys.

6. Give technique of diagnostic or exploratory puncture.

7. Give differential diagnosis of diphtheria.

8. Give physical signs of hypertrophic emphysema.

9. Give physical signs of plastic pericarditis.

10. (a) Give physical signs of dilatation of the heart; (b) give differential diagnosis.

Medical Jurisprudence.

1. Is a surgeon responsible for the acts of his assistants?

2. When should notes of an autopsy be taken?

Hygiene and Sanitation.

1. Describe the sanitary methods that should be used in a home where one is sick with pulmonary tuberculosis.

2. (a) How purify a well polluted with typhoid infection? (b) what hygienic measures are advisable for the prevention and eradication of scorbutus?

3. Define quarantine. Mention the principal quarantinable diseases.

4. (a) Explain the proper ventilation and lighting of a schoolroom; (b) how many cubic feet of air space should each pupil have? (c) what diseases are incident to school life?

Neurology.

1. Give etiology of tabes dorsalis.

2. What do you understand by neuritis?

Gynecology.

1. Give preparation of patient for gynecologic examination.

2. Name the organs found in the following regions: (a) Right hypochondriac; (b) epigastric; (c) left hypochondriac; (d) right lumbar; (e) umbilical; (f) left lumbar; (g) right iliac; (h) hypogastric; (i) left iliac.

3. (a) Give indications for intravenous injections.

4. (a) Define cystitis; (b) give causes; (c) give differential diagnosis.

5. (a) Define sterility; (b) give diagnosis; (c) give treatment.

6. (a) Define complete abdominal hysterectomy; (b) give technique of operation.

Note.—Answer any five of above.

Ophthalmology and Otology.

1. (a) Give etiology of acute contagious conjunctivitis; (b) give diagnosis and prognosis; (c) give treatment.

2. (a) Give method of physical examination of the organs of hearing; (b) give tests for hearing.

Obstetrics and Pediatrics.

1. Give the anatomical names of the external organs of generation of the female.

2. What changes take place in the maternal organs induced by pregnancy?

3. Describe a fully developed Graafian follicle.

4. (a) Does human pregnancy ever exceed the full term of 280 days? (b) if so, what are the determining symptoms of prolongation?

5. Give etiology, pathology and treatment of extra-uterine pregnancy.

6. Is the fetus in utero immune from any disease that may affect the mother?

If so, give name of disease or diseases.

7. What is ovulation? When does it take place?

8. Describe the proper management of the third stage of labor.

9. What are the physical signs that would lead you to suspect the birth of a premature infant?

10. When should forceps be used?

Pediatrics.

1. Infantile paralysis; give cause and treatment.

Surgery.

1. Give diagnosis of empyema of gall-bladder.

2. Explain process of repair in fractures.

3. Differential diagnosis of hydrocele and hernia.

4. Give the symptoms that would necessitate the removal of the thyroid.

5. Give symptoms of empyema of the chest.

6. Give diagnosis of Colles' fracture.

7. Give symptoms of a depressed fracture of skull.

8. Name five causes of swelling in the inguinal region.

9. What is an epulis?

10. Is a gonorrheal joint infection a surface infection?

The Conditions Under Which the Sterilization of Wounds by Physiological Agency Can be Obtained.—Wright, Fleming, and Colebrook, in *The London Lancet*, discuss in some detail their observations on the treatment of bacterial infection of wounds, giving a careful description of the technique adopted. They point out the fallacy of the assumption that the organism is unable to deal with the infecting microbes—in which case there would be bacterial infection from which nobody could recover. They add that in order to ascertain what the body is capable of achieving, we must find out how to bring its powers effectively to bear. They state, (1) Serum from normal blood and normal lymph constitutes for the vast majority of the microbes met with in foul wounds a very unfavorable culture medium; only the streptococcus, the staphylococcus and certain diphtheroid bacilli can grow in unaltered serum, and when a minimal implantation is made the streptococcus alone gives a growth. In other words the microbes of wounds fall into two categories: serosaprophytes, which grow in corrupted, and serophytes, which grow in uncorrupted blood fluids. Hence, (a) a wound that contains serosaprophytic organisms contains corrupt-

ed discharges; (b) if the wound can be flooded with wholesome serum and that serum kept uncorrupted, the infection will be reduced to a purely serophytic generally to a streptococcal and staphylococcal infection. (2) Trypsinized serum provides an excellent culture medium for practically every species of microbe. (3) Neutralized or partially neutralized serum, such as obtains in every condition of collapse is a medium in which serophytic as well as all the microbes of the gas gangrene class flourish. These latter, however, are not genuine serophytes but serophytes only of acidosed blood fluids, which means that a gas gangrene infection in tissues in cases where the circulation is uninterrupted can be combated by drawing away the acidosed lymph and replacing it by alkaline lymph. (4) The whole blood constitutes a medium of essentially the same quality as the serum, in which only saprophytic microbes will grow. These observers then show by means of experiment that what is essential to the achievement of bactericidal effects is the employment of freshly emigrated leucocytes—which from a clean wound surface are precisely the same as from blood clots—the keeping of these alive and active, and the removal of the excess of serum which would carry the microbes out of reach. The solution of the problem of sterilizing the actual wound surface they believe will be found along these lines. They submit experimental data to show that it is possible to sterilize the superficies of a wound by the agency of antiseptics, provided that the surface has been washed perfectly clean from albuminous substances. Finally conclude with the following statement of facts proved to be true as against that which has been shown to be erroneous: (1) It has been erroneously inculcated that every wound should be sterilized before closure; and that, therefore, primary suture should be avoided and secondary suture undertaken only after a course of antiseptics. There is now no question, with respect to primary suture that the wound taken after early surgical cleansing and resection is as good as sterile; and, with regard to secondary suture, undertaken with a wound in good condition and a purely serophytic infection, that such operative procedure, provided it leaves behind no infected dead spaces, directly contributes to sterilization. (2) It has been taught that we should judge of the fitness of the wound for closure by necro-pyocultures and direct microscopic examination of the pus. We have learn-

ed that it would be infinitely more reasonable to base our judgments upon the results of bio-pyo-culture. (3) It has been taught that suture cannot be successful in a wound containing a haemolytic *Streptococcus pyogenes*. We have seen that leucocytes can, given proper conditions, successfully combat this, and of course all other streptococci; and that these conditions can be realized in connection with the suture of wounds. (4) It has been taught that for the removal of sloughs from foul wounds chemical solvents are required. We have learned that sloughs can be removed by tryptic ferment set free from disintegrated leucocytes, and that the liberation of this ferment can be greatly accelerated by breaking down the leucocytes in the discharges with hypertonic saline solution. (5) Lastly, it has been taught in connection with antiseptics that sterilization is obtainable only by continuous or very frequently repeated application. We have learned that there is nothing to prevent any part of a wound surface which has been washed quite clear of albuminous matter being sterilized by a single application of antiseptics.

War Scars and Their Pains: With Special Reference to Painful Amputation Stumps.—Corner, in *The British Medical Journal*, points out that war scar tissue is an irritant, containing contracting fibrous tissue, inflammatory foci, and pathogenic organisms. The irritation ascends the stump and starts infective inflammation in the muscles, arteries, veins, bones, connective tissue, and nerves. The pain is of composite, not necessarily nervous, origin, from the osteomyelitis of bone or the arteritis of an artery, in which case it is folly to confine treatment to the nerve trunks. In one case, in which the arm had been shattered about the elbow and amputation made below the shoulder joint, Major Corner and Professor Marinresco discovered a piece of metal about the size of a pin's head in the nerve some months after the wound had healed. These observers also noticed the frequent occurrence of dark patches on their sections. These they concluded were shrapnel pulverized by the action of the body juices on masses embedded in the wounds and carried upwards by the lymph stream. They also found particles of fibers, probably silk, which also had been carried up into the structures including the nerve ends in these painful stumps. They consider these as probably relics of the fragmentation by the body fluids

of silk ligatures, carried away by the lymph stream. From all this they conclude that silk is an irritant—a kind of internal seton—some of which is carried upwards by the lymph stream and some shed outward from abscesses, sinuses, and discharges of the wound, and that war time scar tissue is unable to encapsulate an unabsorbable suture; that, therefore, silk should never be used in war wounds, the great pathological characteristic of painful stumps being the presence in them of foreign bodies. Corner furthermore calls attention to the fact that a nerve divided always regenerates. In general it regenerates so as to reinnervate the deinnervated parts. But if the deinnervated parts have been removed by amputation then the fibers of regeneration seem to innervate all structures they meet, and sooner or later they must come across the inflammation infested scar tissue, when we have the simple algebraical equation: nerve plus inflammation focus equals pain. The particular function of the nerve affected does not seem to matter. War tissues must therefore be done away with before much regeneration can take place, and this may be accomplished by heat, light, X-ray, radium, vibration, electricity, and ionization. Should the regenerating fibers encounter an obstruction, they form a tumor—a regeneration neuroma. They then flow on. If this infective scar tissue is not removed, reamputation will become necessary and, of course, will have to be done much higher up. In the nerve end the irritation may cause arteritis, endarteritis, phlebitis, lymphangitis, and thrombosis in the intraneural vessels. The irritative process travels more freely and further along the vessels than along the nerves, and the vessels should therefore be cut short at every amputation.

An Address on Kineplastic Amputations.—Professor V. Putti, in *The London Lancet*, reviews briefly the fundamental theories of Professor Giuliano Vanghetti's plastic motor flaps and indicates the vast field thrown open to the orthopedic surgeon through the application of these theories, which as yet are little known in France, England, or America, though they have been studied by Austrian and German surgeons. The object of "kinematic amputation" is to utilize the functional resources of the stump so as to convey movement to the artificial limb. The name kinematic plastics, or kineplastics, has been given by

Vanghetti to any kind of bloodless or operative plastics which tend to economize, restore, or substitute muscular masses which can be employed toward imparting direct and voluntary movement to an artificial limb. The term kinematization is no w applied to every kind of kinematic artificial limb and to the active and precocious mobilization of such muscles as are involved in kineplastic operation, while every moving entity obtained kineplastically is called plastic-motor (motor flap). These motor flaps vary as to their number, position, shape, and function, and in order to correspond with the object for which they are made, they must conform to the following requirements: they must possess every requisite for withstanding a firm, resisting, and painless grip, also a traction that may attain a high degree; they must be provided with a sufficient amount of functional muscular tissue to guarantee the accomplishment of the task that will be demanded of them. The muscles must be sought and obtained from among those of which the stump still disposes. Skin flaps, muscular insertions, various bone and tendinous fragments and segments of limbs, which would seem utterly superfluous under ordinary circumstances, must be considered of the greatest value in view of future kineplastics, and even in the first aid dressing station this must be borne in mind by the surgeon. It is evident that the application of kinematization will entail a radical upheaval of all preconceived notions regarding methods of amputation. Although the actual idea was conceived over twenty years ago, kinematization has only been applied on a large scale since the beginning of the war and it is yet too early to render final judgment. From a consideration of his own cases, however, the author has come to the following conclusions: (1) The practical results that have been obtained through kinematization have shown that the hopes placed in the principles and methods of the modern theory of motor flaps are thoroughly justified, and that kineplastics are entitled to be placed among the most brilliant of the discoveries of orthopedic surgery, deserve to be accepted with perfect confidence, and to be tested on a large scale by all those whose aim it is to restore to the disabled man his functional activity. (2) That the preparation of motor flaps is a well-defined surgical act that must be performed in accordance with its own special technique, the methods of which have already

stood the test of experience. (3) From a physiological point of view motor flaps are actually capable of giving both the quantity and quality of action determined by the muscular masses that actuate them. Yet, practically considered, motor flaps will be able to yield the full measure of their value only if the artificial limb is perfectly adapted to their shape and their strength. (4) As the principal aim is to attain the vitalization of the artificial limb, it is essential that the surgeon and the mechanic should work in harmony in order to solve satisfactorily this most interesting, if difficult, problem.

Agglutinin Diagnosis in Triple Inoculated Persons.—Perry, in *The London Lancet*, points out that prophylactic inoculation with triple vaccine (T. A. B.—typhoid, and paratyphoids A and B) has wrought material changes in these diseases. The clinical form of the enteric infections is wholly aberrant, and the symptoms have become so modified, or so many are absent which were diagnostic, that the clinical diagnosis of enteric infection has become very difficult. From the laboratory side the condition is similar; the mortality has been so reduced that a necropsy on a victim of enteric infection is now very rare; the recovery of the infecting organism from the blood, urine or feces is now the exception rather than the rule. The agglutinin test has also been greatly modified, but it still remains the one method of making a reasonably certain diagnosis. As the result of a very large experience with this test in triple inoculated subjects the author presents the following conclusions as to its value and the method to be used. The technic of Dreyer and Walker, of quantitative determination of the agglutinins for each of the three organisms against standard agglutinable cultures is the method to be used, but it must be carried out by an experienced worker if its results are to be of value. The test must be repeated at regular intervals to obtain the curve of each of the three agglutinins. Where there is a positive result this is shown by a rise in the agglutinin curve for one, or at times two, of the organisms amounting to 100 to 200 per cent. This rise develops in a regular curve and reaches its maximum between the sixteenth and twenty-fourth days of the disease. The occurrence of such a rising curve is diagnostic of infection by the organism, or organisms, whose curve is affected. In some cases all three curves

may rise and fall in this manner, and one cannot then make a diagnosis as to the infecting organism. Negative agglutinin tests in clinical cases of enteric infection may be due: 1, possibly to the mildness of the infection as a result of the inoculation, so that few agglutinins are produced; 2, to the fact that the infecting organism is a feeble producer of agglutinins, such as the *B. paratyphosus* A; 3, possibly to exhaustion of the power of producing agglutinins through the administration of typhoid vaccine prior to the use of the triple vaccine. Finally, the specificity of the positive test is shown by the fact that there is seldom any material rise in the agglutinin curve of any of the three organisms as the result of other febrile conditions.

Treatment of Central Nervous Syphilis.—Carlill, in *The London Lancet*, concludes a long paper on this topic as follows:

1. The possibility of a syphilitic basis should be considered in every case of nervous disease.

2. Nervous syphilis can be proved by examination of the cerebrospinal fluid. The examination of the serum, whether the Wassermann reaction is positive or negative, is of little value in the diagnosis of these cases.

3. Provided that the diagnosis is made early, and prompt treatment given in adequate quantity, syphilis of the nervous system appears to be curable in very many cases.

4. The real result of treatment can only be determined by repeated examination of the cerebrospinal fluid, hence the absolute necessity of painless lumbar puncture.

5. Cases in which this operation has been contraindicated have not been observed.

6. Some cases of curable meningovascular syphilis are diagnosed as incurable dementia paralytica, and treatment is withheld.

7. Even in some cases of long-standing *tabes dorsalis* the syphilis appears to be entirely curable by treatment, and in nearly all cases symptoms can be greatly alleviated by "606."

8. Novarsenobillon, in Carlill's hands, has proved a safe and most efficient remedy against the protean ravages of the *Spirochaeta pallida*.

9. Galyi is not recommended.

10. The outlook of sufferers from early neurological syphilis is very bright,

and will be brighter still when the general standard of knowledge of neurological diagnosis is less inadequate than it is today.

11. If the profession and the public seize and apply our present knowledge of syphilis it is not too much to hope that future generations of students will learn of *tabes dorsalis* and *dementia paralytica* only from the text-books.

12. Abolition of the ankle-jerks is an early sign, and often the only one, of arsenical neuritis, and may be demonstrated in the absence of any subjective symptoms.

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Low Venereal Disease Rate—The War Department reports that the spread of venereal disease has been greatly reduced among the American Expeditionary Forces by the methods employed by the Army Medical Corps. The lowest record for the Army was in 1916, 91.23 per thousand. The latest report shows the present rate to be 47.8. Among the troops in the United States the rate has been reduced approximately to 21 per thousand yearly.

Influence of Treatment on Bacterial Flora of War Wounds.—Goadby (British Medical Journal), draws his conclusions from three years of study of the bacterial flora of war wounds as seen in home hospitals and finds that the mass infection of wounds has shown progressive diminution while the persistence of anaerobic organisms in the wounds has not undergone a similar reduction. The use of the two common antiseptic dressings—Bipp and hypochlorite—has not materially diminished the anaerobic flora. Of the various methods employed in the immediate treatment of wounds at the front, early, complete excision of the damaged tissues to be the only one which has materially reduced the anaerobic wound flora. The question of latent infection as contrasted with persistent infection is of great importance in relation to the performance of subsequent operations. Since the organisms in latent infection are found in close proximity to healthy tissue, they are likely to be at the site of the subsequent operation. Finally, it is found that bone fragments split off at the time of the original injury invariably become sequestra, probably due to the proteolytic action of the bacteria.

Treatment of Sprained Foot in Military Practice.—Audion (Paris Medical), comments on the large number of cases of *pis equinus* or *equinovarus* which have followed mere sprains among soldiers. Surgeons have been allowing men with such sprains to walk as soon as they feel able to, just as has been the custom in civil practice. The soldier, however, instead of resting as soon as the muscle concerned begins to be fatigued, finds so much pleasure in walking about and is so hardened to fatigue that he does not rest the parts sufficiently. The muscles fail to recover their mobility completely during rest, and the faulty attitude of the limb assumed in locomotion to minimize pain becomes fixed by contracture and retraction of the over-fatigued muscles. All these sprain cases should be put to bed when admitted and the condition of the foot examined carefully the next day. Where the patient is able voluntarily to flex the foot so that the sole forms an angle of 75 deg. to 80 deg. with the axis of the leg, he can be allowed to walk two hours every day provided he avoids external rotation of the foot and keeps the heel down normally at each step. If he cannot walk thus, he should remain in bed longer, or better, a plaster boot should be applied with the foot—a pro-

cedure facilitated by the sitting position, the knee being flexed and the chair moved forward slightly in relation to the affected foot resting on the ground. Where voluntary flexion of the foot proves impossible at the first examination, passive flexion should be attempted. If it can be accomplished, the patient may walk, but not as long as the preceding group of cases; preferably he should be allowed to walk only to the table and the latrine, remaining in bed the rest of the time. If even passive flexion is impracticable, a plaster boot should be applied with the foot in the best position in which the patient can walk without distress. The boot should be used for ten days to two weeks. The patient must allow the boot to harden for twenty-four or thirty-six hours before he begins walking. To prevent any tendency to external rotation by pivoting on the heel in walking, the patient should be told to bend the knee as soon as the heel meets the ground.

Prevention of Nerve Bulbs in Stumps.—W. A. Chapple (British Medical Journal), points out that painful bulbs on the ends of nerves following amputation are so frequent and troublesome as to cause a very protracted convalescence in a large number of cases. In an article in the British Medical Journal, August 25, 1917, Chapple described a method of dealing with nerves which experience has further shown to be valuable in preventing these neuromas. Recently, he had the advantage of seeing a median nerve which had been treated in this way four months previously, together with an ulnar nerve which at the amputation had been severed in the ordinary way. The median end was the shape of a pointed pencil, and the ulnar nerve had a large and tender bulb. It would appear that when a nerve is severed in amputation the axis cylinders grow in search, as it were, of those of the other severed end. These nerve elements from the central end multiply, enlarge and get involved in and surrounded by fibrous tissue, which on contracting squeezes and renders tender and painful the sensitive nervous tissue involved in the mass. A bulb may exist and not be painful or tender until the contraction takes place. Chapple's experience tends to show that if the sheath of a nerve is cut and stripped back along its trunk with a piece of gauze between the finger and thumb for about one-half inch in the form of a cuff and then brought forward and tied after the denuded trunk has been severed, the sheath acts as a limiting re-

sisting membrane and thus protrusion of axis is prevented.

Meningeal Hemorrhage in War Practice.—Guillain (Bulletin de l'Academie de Medicine), points out that in penetrating wounds of the skull, nearly all the primary symptoms, as well as the immediate prognosis, are dependent upon meningeal hemorrhage. Indications of it are early coma, epileptiform seizures on the first day, pupillary disturbances, bradycardia, and hyperthermia. In all cases of penetrating skull injury which succumbed to shock the author noted both clinically and at the autopsy the presence of meningeal hemorrhage. Inhalation anesthesia and lumbar puncture are attended with danger under such circumstances. Even in simple contusions of the skull, without fracture, due to war projectiles, meningeal hemorrhage is much more frequent than is generally supposed. It is marked by slight mental confusion, headache, slow pulse, anisocoria, etc.; lumbar puncture yields a pinkish or yellowish cerebrospinal fluid. Subdural hematoma may follow; yet its clinical signs—blindness, hemianopsia, aphasia, paralyses, etc. may later completely disappear, either spontaneously or after repeated lumbar punctures. In 1915 attention was called by the author to meningeal hemorrhage from nearby explosive detonations, in the absence of an actual wound. In addition to the frequently present diagnostic signs of meningeal hemorrhage, viz., headache, neck rigidity, Kernig's sign, bradycardia, etc., Guillain finds diagnostically significant a state of cerebral excitation with mental confusion, the contralateral flexion reflex by pressure on the femoral quadriceps, true defensive reflexes such as those of the frog, and pupil disturbances. In a few cases there was noted a massive albuminuria or a cholemic tint of the skin.

The Treatment of Advanced Prostatics.—Crockett (Urologic and Cutaneous Review), states that the patient who has sudden retention should have a nurse for the first twenty-four or forty-eight hours. The bladder should never be emptied suddenly. Every two or four hours a small quantity is withdrawn, preferably two to four ounces. Later, if it is found that the kidney secretion replaces the amount withdrawn, the quantity can be increased to six or eight ounces; water should be freely given. The alimentary tract should receive attention, mineral oil being given in a routine way, coupled

with arsenic and iron when the hemoglobin is low. The two stage operation should be performed. The second stage should be performed when the kidney sufficiency increases; when pressure effects on the deep abdominal vessels and lower bowel disappear; digestion, respiration, and heart action improved and when the prostrate can be felt to have shrunk to about half its size.

The Renal Function in Cardiac Insufficiency.—Achard and Leblanc (Presse Medicale), note that in cases of heart disease with diminished output of urine, urea often tends to accumulate in the blood, lessening, however, when diuresis is started. Ambard has ascribed the urea accumulation directly to the reduced output of urine; the kidneys are held still capable of concentrating urea without difficulty, but the outflow of fluid is insufficient. They have found that so simple an explanation of the condition does not always answer, for upon fractionating the urine one sees at short intervals the urea being eliminated in very different degrees of concentration, the latter increasing progressively as the output of urine rises and the degree of albuminuria falls. These facts can be explained on the basis of variations in the circulation of blood through the kidneys; stasis, when it becomes accentuated, temporarily lowers the power of the kidneys to concentrate urea. After the onset of polyuria, on the other hand, one can observe an increase of the concentrating power to above normal. Similar observations may be made in acute diseases.

Atonic Indigestion.—A large proportion of all cases of indigestion are due to atonic conditions. This is why Seng, a remedy that has the power of markedly stimulating the functional activity of the digestive glands, is so effective in digestive disorders generally. One to two teaspoonfuls, shortly after meals, increases glandular activity, and by thus helping the stomach to do its own work, assures relief from fermentation and distress.

Diseases of the Male Urethra.

Diseases of the Male Urethra. By Irvin S. Koll, M. D., Professor of Genito-Urinary Diseases, Post-Graduate Medical School and Hospital, Chicago. Octavo of 151 pages, with 123 illustrations, several in colors. Philadelphia and London: W. B. Saunders Company, 1918. Cloth, \$3.00 net. W. B. Saunders Company, Philadelphia and London.

Treatment of Septic Wounds.—Tanner Hewlett (American Medicine), points out that acridine dyes possess powerful bactericidal properties, especially in the presence of serum. Flavine, acting on bacillus coli for twenty-four hours killed in peptone water in a dilution of 1-1000; in serum, in concentration of 1-100,000. Acting on staphylococcus for twenty-four hours it killed in peptone water in a concentration of 1-20,000; in serum, in 1-200,000. Flavine is relatively nontoxic and does not inhibit phagocytosis and is recommended in the strength of 1-1,000 to 1-10,000. Some workers find it has a powerful leucocidal action as leucocytes treated with flavine for five hours lose their phagocytic power. In the practical treatment of wounds a strength of 1-1,000 in saline was first used, but, later, equally good results were obtained if after the first dressing a solution of 1-5,000 was used. When the Carrel method of irrigation is used a solution of 1,10,000 is of sufficient strength. As a primary treatment of recent war wounds it has the following advantages: absence of all toxicity; prevention of suppuration and spreading sepsis; the primary dressing need not be changed for two or three days; the wounds are not inflamed or painful. It should not be used in later stages of wounds.

Further Studies on the Properties of Pure Vaccine Virus Cultivated in Vivo.—Hideyo Noguchi (Journal of Experimental Medicine), says that the virulence of vaccine virus for the testicular tissues increases until its maximum is finally reached. A prolonged passage through the testes does not diminish the activity in the skin. The testicular strain of vaccine virus is no more likely to localize in various organs than the ordinary skin strain, while both may localize in adjacent lymph nodes when introduced intravenously, subcutaneously, or intratesticularly, but other organs are not involved. Experiments to determine the viability and resistance of the testicular vaccine virus show that it is best preserved in Ringer's solution or 0.9 per cent. saline solution; in distilled water it is weaker. Low temperatures are necessary. At 18 deg. or 37 deg. C. the virus deteriorates. Phenol is less injurious than glycerol for the ripening process. Phenol in a concentration of 0.5 to 1 per cent. has almost no injurious effect, while glycerol is a powerful vaccinicide. Tests to ascertain whether a gradual deterioration of the vaccine virus could be delayed or pre-

vented in different atmospheres indicate that in sealed ampules containing hydrogen, nitrogen, or ordinary air, it retained its virulence better than in an open receptacle, and that pure oxygen or carbon dioxide destroyed the virus completely at the same temperature. The effects of acids, alkalis, and germicides were also tried. The vaccine virus was completely destroyed by sodium hydroxide in a concentration greater than 1:200, and almost completely destroyed by hydrochloric acid in a like concentration. Iodine was a powerful disinfectant for the vaccine virus, but iodide salts did not reduce its virulence, even when mixed in vitro with a thirty per cent. solution and kept one hour at 37 deg. C. Dessication has a destructive effect and does not exert any protective influence on the gradual deterioration due to age which takes place at all temperatures.

Gastric Secretion During Fever.—Meyer, Cohen, and Carlson (Archives of Internal Medicine), studied this question in dogs with Pawlow accessory stomachs, producing fever by intravenous injection of sodium nucleate or a killed culture of *B. prodigiosus*, feeding meat with water five or ten minutes later, and then observing and testing the gastric secretion striking and constant results were obtained. The gastric secretion during fever was found to be diminished in volume and in total and free acid. The percentage of chlorides is constant or only slightly reduced, and the pepsin relatively increased. The secretion isropy and mucous in character. External heat, when sufficient to raise the temperature by from 2 to 4 deg. F., was found to cause the same changes in the gastric juice as are produced by fever. Both in fever and in temperature elevation due to external heat, gastrin—a product which when injected subcutaneously causes a definite secretion of gastric juice in which psychic factors play no role—proved incapable of inducing gastric secretion. The authors suggest that during fever toxins are elaborated having a direct depressor action upon the secretory cells of the stomach.

The Oil Pimples of Shell Turners.—Those occupied in turning explosive shells on lathes suffer from a peculiar occupation disease, an eruption of pimples due to accumulation of iron in the integument. This accumulation is made possible by the use of impure oil.—*Le Progrès Medicael.*

Trachoma Treatment.—After thorough trial Beals found that the treatment usually recommended for this condition gave indifferent results. He offered what is termed as "the intense bichlorid rub." The process is as follows: One drop of 10 per cent. cocaine is instilled into each eye at intervals of 5 minutes for three applications, then a rest of 15 minutes is allowed. Then the upper and lower conjunctiva of the eyelids is gently brushed with 1 to 1000 perchlorid of mercury solution applied by means of a cotton applicator, care being taken not to touch the eyeball. This must be done thoroughly, covering as much of the conjunctiva as possible. The process is repeated in from 5 to 7 days. Cold applications will relieve any pain produced. A bichlorid solution of 1 in 5000 is to be instilled three times a day between the rubs. By this treatment no scar tissue is formed.—*British Journal of Children's Diseases.*

Intravenous Injections of Arrhenal in Relapsing Fever. — Dumitresco-Mante (*Presse Medicale*), uses a solution of three grams of arrhenal in sterile distilled water, enough to make ten mls. Giving this large amount of the drug intravenously in a single dose was found entirely safe, no early or late ocular complication or other toxic effect save a slight, evanescent headache being noticed in any case. Among eight who were given this dose during the first paroxysm of fever, six were freed of the second paroxysm, the temperature soon descending permanently to normal. In the seventh case, the second paroxysm appeared nine days after the first, but was very mild, and no spirilla could be found in the blood at the time. In the ninth case the temperature rose to 40 deg. C. nine days after the beginning of the first paroxysm, but descended to 36 degrees on the next day. No spirilla could be detected. In this case the second rise is believed to have probably not been due to the infection itself. The average time between the injection and the return of temperature to normal in the eight cases was twenty-six hours. The sterilizing action is thus slower than with neosalvarsan, but seems none the less sure in most cases. Using neosalvarsan the author found that the second febrile paroxysm sometimes did appear after it, even where 0.45 or 0.5 gram had been given. In one case, moreover, only 0.15 gram of neosalvarsan proved sufficient to induce rather alarming cardiac disturbance. In no case receiving three

grams of arrhenal had any cardiac difficulty resulted. Studies of the red blood cells, coagulability, and leucocytes, and of the renal, hepatic, and pulmonary functions revealed no deleterious effects of the drug. The known contraindications to arsenic, viz., insufficiency of the liver, heart, or kidneys, as well as hemorrhage from the bowel or lungs, should doubtless apply in the use of arrhenal. Doses smaller than three grams proved therapeutically insufficient.

Selection of Abdominal Cases for Operation—Richards (*British Medical Journal*), says that in military wounds of the abdomen the value of early operation and the best technic are fairly well agreed upon, and the mortality is fairly constant. There is, however, a material difference between successful cases and profitable cases. The only profitable cases are those in which an otherwise fatal injury is cured by operation, and it is upon the proper selection of cases for operation that the proportion of profitable cases depends. Even if the operation does no harm, it is a waste of valuable time to operate upon cases which would recover equally well without operation, and it is a similar waste of time to operate upon such as offer no hope of recovery even after operation. In both instances we are depriving other men of profitable operations. Patients with wounds limited to solid viscera, with no progressive hemorrhage and no large retained missile, seldom need operation, and those with other grave injuries of head, chest or extremities are usually not fit to withstand operation. In the others it can usually be determined that the abdomen has been penetrated, but the nature and extent of the abdominal injury remains unknown, hence the decision regarding operation must be based upon those facts which can be determined. While no rule can be laid down with certainty, the proportion of profitable operations is very high in those operated upon within the first twelve hours; the same is true to a less extent for those treated in the first twenty-four hours, but after this interval the proportion is very small, since most who then survive would have lived without operation. The pulse rate is the second guide of value, for those with a pulse of 120 or more have less than half the chance of survival of operation of those with pulse below that rate. Those with rapid pulse should be operated upon, however, if their condition is as good as it is likely to be, if they have a chance

of recovery, and if the time taken does not prevent the proper treatment of more hopeful cases. In times of great pressure the men should be selected and arranged in the order of the likelihood of the operation's being profitable, if the maximum surgical help is to be given to all. Finally no surgeon should be allowed to do this work who is not rapid and gentle in his technic.

Antimony in Animal Trypanosomiasis.—Rhodesian trypanosomiasis, although refractory to arsenic, can be controlled by antimonial preparations given intravenously, and in a letter published in *The Lancet* two years ago, Dr. C. W. Newnham claimed a more permanent result with "I" rhodensense" by means of subcutaneous injections of 30 minims twice daily of Martindale's injectio antimonii oxidi, equivalent to gr. 1-24 tartar emetic. Their success induced Mr. L. E. W. Bevan, M.R.C.V.S., to try the effect of the same treatment on cases of trypanosomiasis in animals, and his results are recorded in the 1916 report of the Government veterinary bacteriologist for Southern Rhodesia. Injected into pigs infected with a small trypanosome of the "peccorum" group the drug produced no appreciable effect. To both pigs and sheep doses containing as much as 0.5 g. of antimonious oxide were given, but though the animals suffered no harmful effect from the large quantities of the drug, it had no apparent influence on the course of the disease. An ox naturally infected received up to 2 g. of the salt in suspension, but the parasites did not disappear from the blood, and the animal died from trypanosomiasis six days after the last injection. The results, therefore, of the antimonial treatment of animal trypanosomiasis have so far been disappointing. *The London Lancet*.

A Case of Rat-Bite Fever Treated Successfully by Injections of Novarsenobillon.—Low and Cockin (*British Medical Journal*), report a case of rat-bite fever cured by injections of novarsenobillon. This comparatively rare disease is due, as shown by Futaki, to the presence of long and short spirochetes, the latter being the younger. The patient was aged twenty-five, an East African, and was bitten by a rat on the back of the right forearm. The wound healed up, but seven days later became painful and swollen. Thereafter fever developed and a rash broke out over the body. Later the glands of

the right axilla enlarged, and following this a general adenitis was noticed. The twelfth day after the onset of symptoms the bite, which had now broken down, was lanced and some pus escaped. About the twentieth day severe joint and bone pains came on. The throat became inflamed and sore. The condition improved, but relapsed again and recurred at various intervals. It is worthy of note that malarial organisms were also found in the patient's blood. He showed a positive Wassermann, as is usually the case with other spirochetical diseases. There was clinically no suspicion of syphilis, nor trypanosomiasis. The response to arsenic was prompt and satisfactory.

Systematic Closure of the Suprapubic Wound in Prostatectomy.—Pauchet (*La Presse Med.*), states that in Freyer's operation the wound requires from three to eight weeks to close, and even longer when the operation is done in two stages.

Pauchet says that complete cicatrization can be obtained in from twenty to twenty-two days by following a systematic closure of the wound.

After the prostatic intervention the bladder-wall is closed by two non-perforating U-sutures with No. 0 catgut, and these are knotted. The bladder mucous lining is not included in the suture.

Three sutures of silkworm-gut are taken in such a way that each forms a figure eight. These bring the rectus edges together, at the same time approximating the cutaneous edges. They are passed through the rectus muscle and twice through the outer bladder wall. The skin wound is closed by Michel clips. A compress is applied over the clips and the silkworm-gut passed and knotted over the compress.

After operation a drain is fixed and remains for nine days. On the tenth day it is replaced by a urethral tube for three days. The suprapubic wound can then be sutured. After suture a new retention catheter is fixed and remains eight days. On the twenty-first or twenty-second day this tube is withdrawn, as well as the suprapubic sutures. This method has always been successful. It was first used to combat urinary fistulae in wounds which showed very retarded cicatrization. The constant success of secondary sutures had encouraged the author to systematically practice it early in all his operations of this kind.

There may be some urinary complications, but they usually clear up if the

prostatic excision has been correct and complete.

Pauchet calls particular attention to the desirability of not leaving any particle of prostatic debris, otherwise the recovery may be protracted by complications.

He has operated in 477 prostatic cases. In his last series of 40 there has been no death, though the cases accepted are constantly becoming more of a risk as regards the heart and kidney conditions.

In the two-stage operation, the patient is restricted to a non-nitrogenous diet as far as possible, but otherwise lives his normal life. When the surgeon deems his physical condition in every way satisfactory and his resistance good, the time for the secondary prostatectomy is fixed. —Surgery, Gynecology and Obstetrics.

First Aid to Metabolism.

When we have a perverted metabolism, we must begin our treatment from a logical standpoint.

First—By cutting off all such material which has been found to increase the uric acid.

Second—By increasing the alkalinity of the blood, thus preventing as much as possible the further formation of uric acid already formed more easy of elimination.

Third—By preventing as far as possible the deposit of this uric acid, especially in the joints.

Fourth—By increasing the eliminating processes of the body to get rid of this excess.

Under the first head we know that uric acid is formed during digestion by the splitting up of the xanthin products which are derived from our proteids, so we immediately put our patient upon a restricted diet. This includes cutting down our meats as well as those other products which are known to increase uric acid formation, such as fats, sugars, beans, peas and nuts, also such drinks as coffee and beer.

Secondly, using such drugs which have a known value in increasing the alkalinity of the blood and of rendering the uric acid more easily eliminated.

It is well known that citrate of lithia will prevent joint deposits, and this is important in these cases.

And finally by increasing the elimination of uric acid through the usual channels, viz., the kidneys, the bowels and the skin.

First increasing the kidney action by diuretics, for it is through the urine that uric acid is usually eliminated, then by

the bowels, which ordinarily carry off the excreta of digestion (mineral oils and enemas have no effect in these cases), we must have a watery movement and therefore we use a purgative. Then finally aid elimination by means of the skin with hot packs and diaphoretics.

Under these heads we have Iris Vesicolor, juniper, sodium acetate and potassium nitrate.

It is best to use in these cases of uric acid excess a standard, stable and palatable solution of these drugs, and one that has been found to be efficient and reliable as Hayden's Uric Solvent.

This product is not a shotgun prescription, but has a definite action, as we have shown above, and when combined with a proper diet is a most effectual remedy in these cases.

Building Up After Typhoid.

As a means of building up the system following typhoid fever cod liver oil is of the utmost advantage for it supplies the very elements which have been drained away during the protracted illness. But it should be remembered that owing to the impairment of digestive functions it is necessary to choose a cod liver oil product of palatability and one easily assimilated, otherwise the weakened gastric apparatus is subjected to too great a trial.

Cord. Ext. Ol. Morrhuæ Comp. (Hagge) contains everything of therapeutic or nutritional value that the plain oil has—hence its superiority to the plain oil. Its acceptability gives it a special sphere of usefulness in women and children.

It has long been the custom of manufacturers of biologicals to offer two types of packages of diphtheria antitoxin; the "Regular" and the "Board of Health" packages. It is, therefore, of considerable interest to our readers that one of the large biological concerns—Eli Lilly & Company of Indianapolis—announces, elsewhere in this issue, that it supplies but one type of package of diphtheria antitoxin and that at an attractive price.

The Lilly antitoxin, according to good authority, is a purified, highly concentrated product, only the globulins containing the antitoxic bodies being used. Excess protein is, therefore, eliminated and the volume of the solution is reduced, thus assuring minimum danger of anaphylactic reactions and discomforts from injections.

The announcement of the intention of Eli Lilly & Company to supply but one

package at an attractive price will undoubtedly be welcomed by the medical profession. The specificity of diphtheria antitoxin is definitely established and it is being relied upon unreservedly. The ease with which the Lilly product can be secured through the drug trade, from stocks kept under proper storage conditions, together with the fine reputation for quality enjoyed by this company should do much to increase the use of Diphtheria Antitoxin, Lilly.

Fifteen thousand employees of Armour and Company, more than 75 per cent. of them of foreign birth, got a close up of "the Big Boss," at the Flag Day exercises June 1, at the Chicago plant. They liked the personal touch and "the Boss" liked it.

When J. Ogden Armour appeared on the speaker's platform with Maclay Hoyne, the principal speaker of the day, and A. Watson Armour, F. Edson White, R. J. Dunham and G. B. Robbins, vice-presidents of the company, he was acclaimed in more than thirty tongues. Every foreign tongue spoken in the United States can be heard in a tour of the Armour plant and the "Viva, Vive, Evviva, Atzye, Niech Zyje, Zivio, Eljen, Dr, Zdravstvuet and Banzai," were given as lustily as were the typical "Ray's" of the Americans.

The real feeling of the crowd was expressed in the muttered cement of one member of the great throng when he spoke aloud to himself, "Gad, this is true Democracy."

It is the occasional personal touch that counts in great organizations and events of this kind where the "boys" are given a chance to come into more or less intimate contact with "the big boss," always are reflected for days afterward in increased efforts on the part of the employees.

Preceding the principal program which included the raising of the flag, a parade was formed which marched through the stock yards and through the streets between the plant buildings.

Alkaline Treatment of Eclampsia.—Maldonado (La Cronica Medica), has found that the normal alkalinity of the blood of sixty per 1,000 is reduced in eclampsia to forty or even thirty. If the patient is first seen in the interval between attacks he gives .01 gram of morphine sulphate by hypodermic and also four grams of choral hydrate by rectum in fifty c. c. warm water. This treatment

usually prevents recurrence of attacks. If the patient is seen during an attack, the morphine is given and the quiet stage awaited before giving the chloral enema. Maldonado considers that chloroform is contraindicated, as he has shown that any anesthesia reduces the normal alkalinity of the blood and tissues. One-quarter of an hour after the chloral enema he gives another enema with fifty grams sodium bicarbonate in 400 c. c. warm water, which is best given by the Murphy drip method. Later he gives potassium bromide or chloral by mouth every two hours followed the next day by a saline purge. On subsequent days a diuretic treatment is continued with potassium nitrate in uva ursi and oxymel of squills, a milk or salt diet is given, with small doses of bromide and chloral three times daily to maintain a state of low nervous excitability.

Bleeding From the Lymphatics in Cases of Cancer.—In a communication to the Academy of Sciences (Paris Medical) Yves Delage referred to the fact that cancer reoccurs despite every method of treatment that has hitherto been proposed; including, surgical, chemical, radium and X-ray exposure, and so on. He concludes that it is necessary to counteract the cancerous intoxication of the organism and believes that a continued "bleeding" from the lymphatics might lead to a detoxication of the cancerous organism, provided that a suitable technic could be developed.

If a very fine cannula is introduced into large lymphatic vessels, such as those of the thigh or, perhaps, in the large lymphatic vein, or into the thoracic canal; or then into the peripheral sinuses of the large ganglia; and if then to this cannula is attached a small-caliber rubber tube and thus a continuous bleeding from the lymph-vessels could be established, the quantity of lymph in this manner abstracted from the body might be restored to the organism by an equal quantity of salt-solution, to be introduced hypodermically.

Unfortunately, Doctor Delage adds, there is a serious uncertainty in this procedure, owing to the difficulty of the operation. Surgeons whom he has consulted have not found it easy, because the lymph-vessels are very small; also, their walls are thin and friable and, moreover, one could not be certain to avoid obstruction, which would necessitate changing the place where the cannula is inserted. However, like many other ideas that

seem impossible before having been tried, it may be that this also will pass into practical utilization.

The idea presents nothing that can be rejected as absurd. We have often insisted that cancer, even if localized, is not a circumscribed disease, but, that there is an underlying cancerous condition of the whole organism, a carcinosis, which may or may not give rise to definitely circumscribed and localized cancerous growth.

If, therefore, it is correct that the cancerous products, cancerous cells or whatever they may be, pass through the lymphatics, the idea of draining the lymph-vessels and thereby stimulating a more normal reproduction of lymph, presents nothing impossible, indeed, it has much to commend it. Whether such method is feasible, is another question.

The Action of Pituitrin on the Human Uterus.—Charteris (Glasgow Medical Journal), tested the uterus of pituitary solution to observe the action of the drug on the tissues. On investigating the non-pregnant tissue material obtained after early abortion, and the uterus removed by Cesarean section at full term, there seemed to be no difference between the action of the pituitrin on the pregnant and non-pregnant uterus. Both contracted, and a rapid response followed the use of the substance. Uterine contractions are more numerous; the individual contraction occupies less time and is followed by a more prompt relaxation, but the general tone of the uterus was markedly increased. The action of pituitrin is very prompt. Within a minute a stimulation which lasted from fifteen to thirty minutes was secured. A second dose renews the original effect or intensifies the action already produced. In comparison with other substances, none were so efficient. Ergot was unreliable, and only the most recent preparations were active. So far as these experiments went, pituitrin was the most efficient and rapid agent for securing uterine contractions.

Renal Tuberculosis.—Bugbee (Surg. and Obst.), states that the present status of renal tuberculosis may be summarized by stating that it may be a primary lesion, and it arises from a filtration of tubercle bacilli from the blood stream into the parenchyma or tubules of the kidney, where changes similar to those found in tuberculous foci in other parts of the body take place. An effort is always made to wall off the process, but the for-

mation of antibodies is so slow and the immunity of the patient, which may have always been absent or which may have been temporarily diminished, is so low that the lesion usually gets beyond control, and usually goes on to wide destruction of the kidney and extension to the other kidney, to other parts of the urinary tract and of the body. From the nature of the lesion, remissions are common and the symptoms of renal tuberculosis are misleading, often slight at the onset, giving no indication of the extent of the lesion. The diagnosis of this condition may be simple or, on the other hand, the most difficult of all urinary lesions, often requiring preliminary treatment to allay acute symptoms and repeated cystoscopic examinations over a long period of time. The treatment cannot be outlined from a study of the symptoms, but it is most important that the remission of symptoms, often for long periods of time, should not be accepted as a cure. The effort on the part of nature to inhibit the progress of the disease and to limit the lesion should be borne in mind, utilized and encouraged in every possible manner in inoperable cases as well as before and after operation. Occasionally the lesion may become arrested and walled off but even when arrested, a kidney the site of poorly drained cavities is a menace to the system, therefore, nephrectomy for unilateral renal tuberculosis is the proper treatment.

Infectious Endocarditis.—At a meeting of a French medical society (Paris Medical), the heart of a soldier was demonstrated, who had died thirty days after the onset of an infectious endocarditis simulating typhoid fever, but, which had, at first, presented transitory symptoms of meningial disturbance.

A marked diastolic murmur had made it possible to diagnose its localization at the aortic orifice, the right valve of which, perforated at the base, was transformed into a vegetative mass as large as an almond. There was splenic infection and hepatization of the lower lobe of the right lung; and, toward the end of the malady, serofibrinous pericarditis had set in, as well as hemorrhagic pancreatitis. Smears and sections of the endocardial vegetations disclosed the presence of cocci. Cultures made of blood removed previous to autopsy, in spleen tissue and in blood serum, showed pure cultures of streptococci.

War Surgery of the Chest.—Lockwood and Nixon (*British Med. Jour.*), say that in no other branch of war surgery is the technic of the operation more exacting, although the manipulations themselves do not require any exceptional dexterity. Chest cases are as urgent as abdominal cases and should be evacuated direct to the casualty clearing station as soon as they can stand the journey. The better the evacuation from the battlefield and from the advanced medical units the severer is the type of case that reaches the casualty clearing station. Thus deaths occur in the casualty clearing station that would otherwise take place farther forward. The percentage of severe chest wounds reaching the casualty clearing station is very much greater when the casualties are principally due to shelling and bombing, especially of the back areas, when the casualty clearing stations are the nearest medical units. Cases of traumatopnea should be closed (preferably by suture) at the advanced dressing station, or even, if possible, at the regimental aid post. Old chest cases should be given morphin early. Active resuscitation must be carried out at the casualty clearing station immediately upon admission. The majority of severe chest wounds require blood transfusion. The value of X-ray examination in chest surgery cannot be overestimated. The complete intrathoracic operation is a serious one and should not be lightly undertaken. Local anesthesia, combined with gas and oxygen (if required), should be employed in chest surgery. Speed and absolute asepsis are essential to success. The operation must begin with total excision of the wound and end with hermetical sealing of the thorax. No fluid must be allowed to collect in the pleural cavity after the operation. Resection and drainage should be a late resort, and are rarely necessary, never unless severe constitutional symptoms of infection are present. Non-operated cases should be treated precisely as postoperative cases. Men who have been exposed to asphyxiating gases bear chest wounds badly. At certain seasons bronchopneumonia is a complication greatly to be feared. In no class of surgery is team work so essential to success.

Treatment of Wounds of the Chest.—Hutchinson (*British Med. Jour.*), says that all cases of wounds of the chest should be treated in special wards or special hospitals. Careful charts should be kept which record temperature, pulse and respirations four times a day. Early di-

agnosis of infection is important. Every case in which there is more than two finger-breadths of dullness should be aspirated. Cases of open pneumothorax should be closed as early as possible. Cases in which there is a large amount of clot in the chest should be opened, blood and clot evacuated and the chest closed. This should be done as early as possible. Cases in which the hemothorax is found to be infected should be opened, washed out and closed, some antiseptic being left in, preferably an emulsion of bipp in liquid paraffin. Postoperative aspirations must be done in all closed cases the first forty-eight hours after operation. No attempt should be made at the base in France to remove a foreign body from the lung.

Megacolon.—Cumston (*British Journal of Children's Diseases*), describes this condition as one of extraordinary size of the colon. It may involve the entire colon or one of its segments. The walls of the intestine are not thinned. It may be present in the newborn and manifest itself by retention of the meconium. Two symptoms predominate: obstinate constipation and abdominal distention. Vomiting is present in about thirty-three per cent. of the cases reported. In children tetany is often seen, unquestionably the result of an intoxication due to intestinal putrefaction. Fever is rarely seen. The final symptoms are extreme cachexia, short rapid respiration, small pulse and cold and clammy extremities, and coma. This condition is to be differentiated from rickets, tuberculosis of the peritoneum or of the mesenteric lymph nodes. A rise in temperature, the presence of ascites, etc., will eliminate megacolon. Prognosis is serious as medical treatment is usually useless. Colostomy has given a mortality of thirty-five per cent. Colopexy has been used. A simple enteroanastomosis is said to produce atrophy of the useless colonic segment.

British Doctors to Have Women Chauffeurs.—Sir Watson Cheyne was asked in the British Parliament whether the chauffeurs of doctors might not be exempted from military duty, because doctors were very dependent on experienced drivers. The Parliamentary Secretary for the Ministry of National Services said that in exceptional cases time might be given to find a substitute, but men were too urgently needed to make the concession general and women would have to be used as drivers.

Treatment of Deep Facial Scars.—Poulard (*Presse Medicale*), asserts that complete removal with the knife is justified only in superficial, elevated scars. In deep, depressed scars adhering to the underlying bone, complete removal may lead to great difficulties by reawakening deep infectious processes that had subsided. Often the scar is acting as a stopper in an opening leading into one of the sinuses or the skull cavity, and its removal is useless and dangerous. Poulard makes a deep incision in the healthy skin around the scar, then removes with the knife the superficial epidermal layer covering the scar, leaving, however, the main fibrous mass of the latter behind. The margins of healthy surrounding skin are then freely loosened, brought together, with a thick layer of adipose tissues, over the cicatricial mass, and sutured there. Esthetically this procedure obviates the unsightly depression left after complete excision of a scar. The scar itself fills up the base of the depression, and the thick, healthy tissues brought over it suffice to form a level surface. The sutures should, of course, be skillfully placed to secure the best esthetic results.

Cranial Bone Plates in Cranioplasty.—Dambrin and Roger (*Bulletin de l'Academie de Medicine*), have been resorting successfully to this procedure for two years, and have now operated in eighty-five cases without mortality, with perfect tolerance of the bone plate, and with excellent esthetic and protective results. The plate is obtained from a human cadaver at autopsy and is taken from the corresponding region of the skull. It is properly shaped, thinned down, then freed of fat and sterilized. The few persistent local sinuses and complications necessitating removal of the plate in three or four of the earlier cases were entirely obviated by strict technic in the latter portion of the series. Of the other methods hitherto used, metallic plates are open to the objection of ultimately inducing local irritation. Cartilage and osteoperiosteal plates sometimes give way and become absorbed, even to the point of reappearance of the cerebral pulsations. Cartilage plates placed in blood or blood serum for a few hours show marked changes in curvature. Bone plates, on the other hand, promote subjacent osteogenesis, or rather, fibrogenesis. While they are similarly susceptible to absorption, there remain locally very firm fibrous or osteofibrous residua which continue to serve the purpose of the plate.

Intermittent Claudication Following Ligation of Main Artery to Lower Extremity.—Babinski and Heitz (*Presse Medicale*), among fourteen wounded men in whom ligation of the femoral or popliteal artery had been carried out, observed intermittent claudication in five instances. Pain compelled these patients to stop after they had walked a distance varying from a few steps to a few hundred metres. The condition was still present months after the operation. In no cases were there pulsations in the *dorsalis pedis* or posterior tibial arteries. The oscillations shown by the Pachon instrument when applied above the malleoli were greatly reduced and failed to increase upon immersion of the extremity in hot water. Of the nine patients who did not show intermittent claudication, six could only walk slowly with crutches because of contractures or deep injury of the sciatic nerve. In the remaining three, collateral circulation had been largely re-established so that the oscillations were almost as large on the affected as on the normal side.

Treatment of Malaria.—Johnston (*British Medical Journal*), describes a method of treatment with subcutaneous injections of quinine which has given him uniformly good results in years of use in malarial regions. The method of giving the injections must be followed to the finest detail if it is to prove satisfactory. The materials required are: A sterilized, all glass, twenty minim hypodermic syringe with stout needles; half per cent. sterile saline solution; sterile three inch, wide mouthed test tube; five per cent. phenol in oil; pure quinine bisulphate. The patient's flank between the iliac crest and the last true rib is prepared by cleansing with soap and water and smearing with the phenol in oil. Four grains of the quinine bisulphate are put into the test tube and twenty minims of the saline are squirted in from the syringe. Bring to the boiling point over an alcohol lamp, fill the syringe with the solution, dip the needle into the phenol in oil, and when the solution of quinine has cooled to about 100 deg. F., pick up a good lump of cutis vera of the prepared flank between the fingers, plunge the needle in to its hilt, sweep its point from side to side through the connective tissue to break down small trabeculae, and inject the solution. Withdraw the needle quickly and massage the spot with some cotton containing the phenol in oil. Repeat daily for five consecutive days in

alternate flanks. The patient should also take for one month a daily dose of one-twentieth grain of arsenious acid and five grains of quinine, well diluted, the latter being taken in the morning.

Drainage of Deep Thigh Wounds.—Handley and Hanlon, in *The London Lancet*, suggest that the special gravity of infected deep thigh wounds lies in the enclosure of the structures in the inelastic sleeve of the fascia lata. This leads to extensive spread of the inflammation under great pressure. Hitherto the methods of drainage have been very inadequate, but a study of the anatomy of the thigh in cross section reveals that the most important intermuscular space is that between the vastus externus and the crureus, which also communicates with many other intermuscular spaces and extends the whole length of the thigh. This space is very readily opened by a longitudinal incision in the line of the external intermuscular septum at the posterolateral aspect of the thigh. The incision runs for two thirds the length of the thigh and the separation of the tissues is made along the plane between the hamstrings and the external intermuscular septum. When the linea aspera is reached the external intermuscular septum is cut through along its attachment. This gives free opening, good drainage, and does not endanger any important structure.

Consideration of Local Processes of Disease and Repair in Treatment of Pulmonary Tuberculosis.—Davies (*British Medical Journal*), points out the more or less generally accepted inadequacy of sanatorium treatment of pulmonary tuberculosis and emphasizes the necessity for considering the pathology of the disease and the factors which enter into the healing of its lesions if treatment is to be made satisfactory. The essential feature of the tuberculous lesion is the formation of ordinary granulation tissue about the tubercle bacilli for the purpose of walling them off and destroying them. The bacilli are of low general virulence and the reaction to them is in most persons chiefly local. The conditions essential to secure the conquest of tuberculous infection are: 1. Good general resistance. 2. A reasonably small dose of the organism. 3. Favorable local conditions at the site of the lodgement of the bacilli. If these requirements are not met the granoma fails as a protective mechanism and becomes a source of danger. The general resistance

can be raised best by proper hygienic conditions and diet, both of which are provided by sanatorium care. The vast majority of persons have a high degree of general resistance as shown by the general occurrence of old healed lesions, and extraneous factors seem to have some tendency to reduce this resistance, but usually only to a relatively minor degree. Surgical tuberculosis teaches that the most important factor in successful treatment is the maintenance of absolute rest of the affected part to permit the full development of granulomas, but also prevents the secondary ill effects of movement such as bronchiectasis and cavitation. Rest of the lung can be secured in one of three ways: by nitrogen displacement, by rib mobilization, or by division of the phrenic nerve in the neck. Of these the first is the most applicable and it should be practiced at the earliest possible moment in all cases. The second is more effective, but since its effects are permanent it is not to be practiced except where the first fails or promises failure. The third method is available to diminish movement of the lower lobe when that is specially involved, to prevent aspiration of infective material from the upper lobe, and as a prophylactic against bronchiectasis. When the lung is effectively collapsed the patient can return to his work and is to a great extent made independent of those fluctuations in general health which normally occur and which otherwise impair his chances of recovery.

Diagnosis of Abdominal Aortitis.—Mougeot (*Bulletins et Memoires de la Societe Medicale des Hopitaux de Paris*), compares by the graphic method the time of the radial pulse with that of the femoral artery—the latter taken just below the crural arch. In all patients with aortic lesions not involving the abdominal portion of the vessel, and at any level of blood pressure, the normal synchronism of the pulse in these two situations was found preserved. In nearly all cases of abdominal aortitis without aneurysm, however, the femoral pulse was found to precede the radial by one fortieth to one twentieth of a second. In the presence of the interval last mentioned the discrepancy can be made out merely by careful palpation. To detect briefer intervals a recording apparatus is required. That an aortic aneurysm situated below the point of origin of the left subclavian artery or involving the abdominal aorta causes retardation of the femoral pulse as compared to the radial was already known. The

author's recent observations in about fifty cases have shown that the opposite state of affairs, retardation of the radial as compared to the femoral, indicates sclerotic changes in the abdominal aorta.

Entameba Histolytica Carriers.—Shepherd and Lillie, in *The London Lancet*, investigated the value of infusions of the several portions of the plant, "chaparro amargosa" in the treatment of persistent carriers of the *Entameba histolytica*, testing the drug on a series of patients who had proved resistant to at least two courses of emetine bismuth iodide. They used infusions of the root, of the root bark, and of the twigs and leaves, and corresponding amounts of the isolated, crystalline bitter principle. All infusions were made fresh and they were given orally and also by rectum. The latter method of administration was combined with the oral, but seemed of little or no value. The drug had some tendency to produce nausea, vomiting, abdominal pain, and diarrhea in some patients, the latter two symptoms appearing only in those who had free amebas in their stools. No case was cured by the use of the isolated bitter principle, but the infusion cured from thirty-six to fifty-seven per cent. of the cases in which they were used, there being but little difference in the efficiency of the different portions of the plant. The administration of a second course of treatment to patients who were not cured by the first course did not increase the proportion of cures. *Simaruba* bark was also tried in the form of fresh infusions, it yielding a similar bitter principle and being closely allied to chaparro. It gave about the same results. In no case having free *Entameba histolytica* in the stools was a cure effected.

Bacteriological Studies in Bacillary Dysentery.—Bezancon, Ranque, Senez, Coville, and Paraf (*Bulletin de l'Academie de Medecine*), in studies of 300 stools during an epidemic which broke out simultaneously in several small foci in a certain military district in the late summer of 1917, were able to establish clearly the role of Shiga's bacillus in the more severe and clinically typical cases, while in the mild the Shiga organism was generally wanting and was replaced by aberrant bacilli of the dysentery group. The Shiga bacillus was isolated in large numbers from forty-three cases, and in dishes of lactose litmus agar at times almost completely replaced the normal intestinal flora, no colonies of colon bacillus being

found. In twenty-six milder cases were found a number of different forms of organisms which did not correspond to any of the classical types of dysentery bacillus and never occurred in the severe or fatal cases. These atypical organisms are divided by the authors into five separate classes, according to their respective behaviors with indol and various sugars and their susceptibilities to agglutination by anti-Shiga and anti-Flexner serums. In each focus of dysentery the organisms responsible for the mild cases were of a single type. In one focus, however, the examinations revealed, in addition to the Shiga bacillus in five cases, the A paratyphoid organism alone in four cases and the typhoid organism alone in one case, in spite of the fact that the symptoms were those of dysentery. In no case in the series was the Flexner or the Hiss bacillus encountered.

Milk a Source of Watersoluble Vitamine.—Osborne and Mendel (*The Journal of Biological Chemistry*), found that in order to promote growth it was necessary to add a much larger proportion of milk to the diets fed rats than had been reported by Hopkins. The optimum amount seemed to be about twenty-eight per cent. of proteinfree milk. In trying to explain the discrepancy between their results and Hopkins', the authors thought that heating the dried protein-free milk might have caused deterioration in the vitamine factor. Accordingly, fresh milk was used, which gave results similar to those obtained when an approximately equivalent amount of proteinfree milk was employed. At least sixteen c. c. of fresh milk must be supplied with the food mixture to produce a normal rate of growth in rats. In view of the fact that their rats needed much more milk than was reported by Hopkins, the authors advise for the present the use of liberal amounts of milk when this is depended on to supply an appreciable proportion of the watersoluble vitamine in the diet. A practical point in connection with this is the custom of reinforcing the supply of calories by diluting the top milk and adding milk sugar. Here the food contains a relatively smaller proportion of the watersoluble vitamine than was originally present in the cow's milk, so that while the child's appetite is normal, the supply of vitamine may be sufficient, but if the food intake is reduced, the vitamine supply is lowered, and endless dietary trouble may set in. The suggestion is offered that this is what happens in artificially

fed children, and that it may be possible to obviate this by supplying this important factor of a proper diet, as has been done in feeding animals.

Aviators and Blood Pressure.—Hirschlof, speaking at a medical meeting at Konigsberg, said *The London Lancet*, that the blood pressure was raised after a flight, particularly in men over thirty. The amount of hemoglobin and the number of the red cells were invariably found to be increased in men who had been flying for some time. The lymphocytes also were more numerous. Flying provoked no organic changes in the heart other than those associated with athlete's heart. Another speaker suggested that the reason why mountain climbing might induce certain symptoms at an altitude of only 3,000 metres, whereas the airman did not suffer till he had reached a considerably greater altitude, was that the airman had not exerted himself much in getting to this height.

Cuneiform Fracture of the Upper Extremity of the Tibia.—Bec and Hadengue (*Paris Medical*), report the case of a soldier with a history of twisting of the right knee in falling into a hole. The parts were swollen and pressure caused pain especially at the outer aspect of the upper end of the tibia, which seemed distinctly broadened. X-ray examination revealed a cuneiform or vertical fracture at this point, splitting off about one-half of the right articulating surface of the tibia. The fibula was intact, doubtless owing to its elasticity. The portion of bone split off was, however, adherent, as in most similar cases hitherto reported, to the epiphysis of the tibia and the head of the

fibula owing to the fibroperiosteal sheath and the joint capsule. This is the first case of this type met with by the authors among thousands of fracture cases examined since the beginning of the war. Before the discovery of the X-ray such fractures were mistaken for sprains of the knee.

Recovery From Toxic Jaundice and Atrophy of the Liver.—Crawford (*British Medical Journal*), reports three unusual cases of very severe toxic jaundice developing from T. N. T. poisoning in which recovery took place, associated with apparent complete regeneration of the liver. In each of the three cases the symptoms were typical of the fatal type of T. N. T. poisoning with atrophy of the liver to such an extent that its dullness in the mammary line shrunk to only from one to one and a half inch in extent. The treatment was symptomatic, except for the administration of large amounts of sodium bicarbonate which seemed to have a decidedly beneficial influence on the symptoms and the recovery. Following beginning recovery from the jaundice and associated symptoms the livers of all the patients returned to normal size with considerable rapidity. In all of the cases the recovery was permanent and complete, the patients having been seen six months after discharge from treatment, when they were in good health and working hard.

Functional Heart Tonic.—Bowen has used *Cactina Pillets* with much satisfaction in functional cardiac disturbances. One to two *Pillets* every 2 or 3 hours will promptly steady the heart.

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THE DIAGNOSIS OF EARLY PULMONARY TUBERCULOSIS WITHOUT THE AID OF PHYSICAL DIAGNOSTIC OR LABORATORY METHODS.*

By Charles A. Robertson, M. D., Medical Director, The Watauga Sanitarium, Ridgeway, Tennessee.

The diagnosis of early pulmonary tuberculosis based upon family and personal history and simple clinical data is so easy in the vast majority of cases that even "he who runs may read." Laboratory and other methods not available to the average rural practitioner should not be depended upon for a prompt and early diagnosis as routine measures. Physical signs in the chest indicative of very early changes in the lungs due to tuberculous disease must remain for the special student in diagnostic methods of diseases of the chest to correctly interpret. It is the purpose of this paper to epitomize certain data and symptoms, which if properly correlated and evaluated make possible a correct diagnosis of early pulmonary tuberculosis in more than ninety per cent. of the cases.

The common practice of delaying a diagnosis until tubercle bacilli are found in the sputum is in the opinion of the writer a stupendous error, and is the cause of the loss of many lives which could otherwise be saved. We desire to make it clear that we do not undervalue the evidence adduced by the proper interpretation of physical findings, nor do we deny that a positive sputum is the supreme test, or pathognomonic, of pulmonary tuberculosis.

That it is necessary to a correct diagnosis in the vast majority of cases we do deny. The great number of cases which have drifted into a hopeless condition of advanced disease owing to the delay and many negative findings by laboratory methods, caused chiefly by faulty sputum collection, is sufficient warrant for the hope of more dependable methods available to the average practitioner of medicine. There are many cases of pulmonary tuberculosis in which there is a reasonable amount of expectoration,

where no tubercle bacilli can be found by the most competent laboratory technician, and are not subsequently discovered until the disease has made great inroads and extensive degenerative changes have taken place. To delay a diagnosis in such cases until it can be predicated upon bacillary findings alone means a late diagnosis, and is an exceedingly dangerous practice from the viewpoint of the ultimate safety of the patient.

Pulmonary tuberculosis is one of the oldest diseases known to man, and clinical consumption was well understood long before the Christian era. From that time until the present day all whose duty it has been to care for the sick have had abundant opportunities to learn its rather simple and more or less uniform clinical manifestations. It is true that the early tuberculosis we now know is very different from the advanced phthisis or consumption of our forefathers. Yet there are certain refinements of clinical evidence which all should understand at this time, and if the proper value is placed upon these evidences, there will be a very small possible percentage of error in any considerable group of cases.

Tuberculosis being an infectious disease, its hereditary etiology is no longer tenable. Theoretically, placental transmission of tuberculosis is possible, but all available evidences combine to prove that it is exceedingly rare among human beings. Römer was able to report only thirty cases, many of them unreliable and not proved. Harbitz at Christiania in Norway, during the years of 1898 to 1911, examined the bodies of 484 children ranging from birth to fifteen years of age, dying from any cause, something over forty per cent. being tuberculous, and in only one case could he suspect congenital tuberculosis. It may be stated as a fact that the new born infant is free from tuberculosis, and that infection takes place during the life time of the individual exposed to tubercle bacilli. Hence, tuberculous infection and disease is a post-natal condition.

The British Royal Commission and A. S. Griffith in Great Britain, the German Imperial Health Board, and Theobald Smith in this country, have shown that ninety-nine per cent. of all adult phthisis is due to the human type of bacilli, and that in children only ten to fifteen per

*Read before the West Tennessee Medical and Surgical Association, Jackson, Tennessee, May 23, 1918.

cent. of serious tuberculous disease is due to the bovine type. Pulmonary tuberculosis is the adult form of tuberculous disease, and is relatively rare under sixteen years of age. Tuberculous involvement of the central nervous system, bones, joints and lymphatic glands, belongs distinctly to the period of childhood, and even here less than fifteen per cent. is due to the bovine type.

It is now almost universally conceded by specialists in tuberculosis work who are entitled to an opinion that pulmonary tuberculosis is but an expression of an acquired relative immunity due to infection during childhood. Von Behring states that phthisis is "but the last verse of the song, the first verse of which was sung to the infant at its cradle." While no definite incubative period has ever been established, yet if the above views

are accepted as correct, we must admit the possibility of many years between the time of infection and the actual development of disease.

The fact that tuberculous infection is always post-natal, and that ninety-four per cent. of all children at the age of sixteen have been shown to be tuberculous, and the further fact that ninety-nine per cent. of all human phthisis is due to the human type of tubercle bacilli, must be evidence that the chief factor in the spread of infection from the sick to the well is the home environment or housing condition of the individual during the tender years of childhood.

I have prepared a chart which I present to you for your consideration, and if you will follow me for a few moments I think I can show that with the expenditure of very little energy and time, a cor-

Pulmonary Tuberculosis.

FAMILY HISTORY—Inherited Susceptibility.

PERSONAL HISTORY:

Housing Conditions in Childhood.
Catarrhal Diseases in Childhood.
Glandular Diseases in Childhood.
Infectious Diseases in Childhood.
Recent Illness—Predisposing.

PRESENT CONDITION:

Cough (slight)
Sub-Pyrexia (afternoon)
Tachycardia
Loss of Weight
Loss of Strength
with or without
Stomach Distress

Add—
Sleep Sweats
Pyrexia
Chills
Tubercle Bacilli

Diagnosis of
Pulmonary Tuberculosis
justified

Diagnosis
Pulmonary Tuberculosis
is late

HEMOPTYSIS

May be the sole initial symptom.
Positive diagnosis warranted—2 per cent. error possible.

HOARSENESS

of more than 3 weeks' duration is serious—probably

LARYNGEAL TUBERCULOSIS.

rect diagnosis of pulmonary tuberculosis can be made by simple clinical data alone in ninety to ninety-five per cent. of the cases.

You will note that we point first to the question of family history. The importance of this phase of our investigation is related only to the appreciation of inherited susceptibility, producing in the individual a favorable systemic soil condition

for the reception and subsequent implantation of tubercle bacilli.

The family history also leads up to the housing conditions in childhood, which we discuss under personal history. Herbert G. Lampson of the University of Minnesota examined forty families classed as containing open cases of pulmonary tuberculosis, consisting of 207 individuals, of whom 138 showed evidence of tu-

berculous infection, a total of sixty-seven per cent. spread, clearly due to infection in the home. Whereas he reports a similar investigation in fifteen non-tuberculous families consisting of eighty individuals, of whom two showed evidences of tuberculous infection, a total of two and a half per cent., which is about the normal incidence of the disease under ordinary conditions of civil life.

The writer now has under observation a patient who was accompanied to the sanitarium by an uncle, who of his personal knowledge was able to give accurate information concerning the condition for the past sixty years of the home in which this young man has lived during his life. It is interesting to note that the patient's grandfather was married three times. By the first wife there were four children, by the second there were three, and by the third there were four, making a total of eleven children born in this home within that period. The grandfather died of tuberculosis, as did his first two wives, the third having died of cancer. Of the eleven children, nine are dead of tuberculosis, and the two living are now victims of the disease. There were two other fatal cases of tuberculosis in this home, making a total of fourteen fatal cases. There are now at least four open cases in the home, making a grand total of eighteen cases of tuberculosis in one house in the past sixty years, or one case for each three and a third years during that period.

So if there have been open cases of tuberculosis living in the home in which the child was born, certainly this gives us strong presumptive evidence that the child has come in contact with tubercle bacilli in more or less pathogenic proportions.

Here we have a starting point, and if this child was the victim of catarrhal diseases of the respiratory passages, was a constant sufferer from snuffles and contracted one cold after another, subsequently suffering from more or less glandular disturbance, and contracted all of the infectious diseases prevailing during that period, we have a history, when coupled with the symptoms listed under "Present Condition," to make a diagnosis quite safely.

If we take into account recent illness from which the individual did not fully recover, leaving some remnant of symptomatology that should have long since passed away, we must realize that the patient has suffered not only with the recent illness, but plus something else.

The present condition of the patient, as evidenced by a slight cough, a subfebrile temperature in the afternoon, tachycardia, loss of weight and strength—all this when not definitely accounted for by other conditions, justifies a diagnosis of pulmonary tuberculosis, and will be correct in ninety-five per cent. of the cases. If to this we add the common stomach distress so characteristic of early phthisis, our diagnosis is all the more warranted.

If we wait until sleep sweats, high fever, chills and tubercle bacilli make their appearance upon this stage of tragedy, our diagnosis should be "advanced pulmonary tuberculosis"—often too late for treatment to be availing.

Hemoptysis may be the sole initial symptom, and any spitting of blood from the respiratory tract should be looked upon as pathognomonic of pulmonary tuberculosis, which will be correct in ninety-eight per cent. of the cases. Hemoptysis may be due to other causes than pulmonary tuberculosis, it is true, but these causes are sufficiently rare that for practical purposes they may be eliminated.

Hoarseness of more than three weeks' duration is serious, and a diagnosis of laryngeal tuberculosis may be made without fear of more than ten per cent. error.

Thus it will be seen that if the average practitioner will take the time to investigate the family and personal history of the individual applying for advice, and if the patient's status *praescens* should elicit the presence of the five cardinal symptoms found upon this chart, a diagnosis of pulmonary tuberculosis can be safely made, and subsequent investigations and amplified physical methods of the most expert will confirm the correctness of the diagnosis.

Stubborn Cases of Rheumatism.—"Many stubborn cases of rheumatism respond rapidly to the influence of Tongaline. This product, representing the highest degree of pharmaceutical skill, contains the salicylates in an unusually potent form, because they are not obtained by synthesis but from the natural oil. In addition to their potency as anti-rheumatics they possess the advantage of not deranging the stomach.

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DOUBLE, REURRENT AND BILATERAL TUBAL PREGNANCIES. AN ANALYSIS OF 89 CASES REPORTED IN THE LITERATURE AND 3 UNPUBLISHED PERSONAL CASES.

By Alme Paul Heineck, M. D., Chicago.

Extra-uterine pregnancy is one of the most important maladies of the child-bearing period. It occurs in all races, appears to be less frequent in the colored, "4 negroes in 169 cases." The condition, though more frequently recognized than heretofore is, nevertheless, often overlooked, misdiagnosed and, therefore, mistreated. A more complete understanding of tubal gestation will lead to the saving of lives and to the prevention of invalidism.

Tubal gestation, by far the most common variety of ectopic pregnancy, is single, double, or multiple; unilateral or bilateral. It may be a woman's first and last conception; it may be preceded by a long period of infertility; it may end a woman's child-bearing career. Tubal pregnancy may co-exist with a uterine pregnancy. It can occur in the absence of other pathological states of the pelvic or other organs. Its occurrence in one tube does not protect against its occurrence in the opposite tube, does not absolutely protect against its recurrence in the same tube.

To facilitate the task of future investigators, I have collected, studied and analyzed all cases of double and bilateral tubal pregnancies reported with sufficient data in the English, French and German literature from 1908 to 1916, inclusive. Only original reports of cases in which the diagnosis was verified at operation were considered.

Double tubal pregnancies are almost invariably bilateral; exceptionally unilateral.

Double and bilateral tubal pregnancies are either simultaneous or recurrent. If simultaneous, both conceptions begin at or about the same time; both gestations may develop, or one may be interrupted and the other continue. Usually, the two fetal cysts differ in size and destiny. The recurrent type is by far the most frequent (63 cases). Almost always, the recurrence is in the opposite tube.

Double and bilateral tubal pregnancies can occur at any period of the child-bearing age. We do not know how often tubal pregnancy recurs; we do not know now why it occurs. Authors are not agreed as to the frequency of recurrence.

One ectopic pregnancy is not necessarily followed by another ectopic pregnancy. Normal pregnancies may be sandwiched in between two extra-uterine gestations.

Months, or even years, may elapse between the incidence of pregnancy in one tube and the lodgment of an impregnated ovum in the opposite tube.

In our collected cases the interval between the two tubal gestations varied from three months to nine years.

Double, recurrent and bilateral tubal pregnancies occurred in women who have never borne living children. Tubal pregnancy has recurred in women who have borne one living child, two children, three children, four children, five children and six children.

Double, recurrent and bilateral tubal pregnancies like other varieties of ectopic gestation not infrequently occur in women who though frequently exposed to pregnancy, have remained sterile.

The cause of tubal pregnancy, whether single, double or recurrent, is not definitely known. No causative factor present in every case has been demonstrated. Not uncommonly, coexisting pathological states are found. Are these pathological states coincidental or etiologic factors? With the data at hand, a positive answer is not possible.

Inflammatory and other degenerative changes of the tubal wall do not possess the important etiological role formerly attributed to them. Though all conditions that obstruct, delay or hinder the progress of the impregnated ovum to the uterus favor the occurrence of ectopic gestation, still many cases occur in which the existing tubal gestation excepted, there is a total absence of pathological tubal or ovarian changes, congenital or acquired. Actual examination at time of operation has firmly established the fact that an inflammatory condition is not present in all cases.

It has been believed that the predominant cause of tubal pregnancy is salpingitis, post-abortion, post-partum or gonorrheal in nature, with resulting destruction of the tubal ciliated epithelium. "I have been able to demonstrate the presence of cilia in nearly every pregnant tube which I have examined," Williams. In some cases, the presence of co-existing pelvic pathological states is recorded, cyst of parovarium, ovarian cyst, polycystic degeneration of left ovary.

All our collected and personal cases were primarily either interstitial, isthmic, or ampullary. These 92 cases represent

185 tubal gestations. Not one of these pregnancies, either first or second, went to full term.

Sixteen gestations were subjected to operative relief previous to tubal abortion or tubal rupture. Thirty-two tubal gestations terminated in abortion; seventy-five in rupture. In the remaining cases, the termination is either not recorded or not definitely stated. Termination depends in great part upon the implantation site of the ovum, thus in the isthmic form, this portion of the tube not admitting of much distention, early rupture is the rule. In the ampullary form, the tubal wall offering in the ampullary region less resistance to the growth of the ovum, abortion is the rule. Tubal abortions are due to rupture through the capsular membrane; they are incomplete, or complete; incomplete being the more common. Complete tubal abortion implies complete expulsion of the ovum, membrane and contents, into the peritoneal cavity by way of the abdominal ostium of tube. In complete abortion, the hemorrhage is usually slight. In the incomplete type, there is a partial loosening of the ovum from the tubal wall and only parts of the ovum pass into the peritoneal cavity. In incomplete tubal abortion, the hemorrhages recur as evidenced by repeated colicky pains, laminated clots, etc. Tubal abortion has been appropriately designated by some authors as intra-tubal rupture.

Rupture, extra-tubal, occurs at or near the placental site, taking place either into the peritoneal cavity or between the folds of the broad ligament. Primary rupture of the ovum, in by far the larger number of cases, occurs previous to or about the eighth week; in a few cases it occurs later.

It may involve any portion of the tube, isthmic, middle third, ampullary, and vary in size from a pin-point to a tearing asunder of the entire tube. Even a pin-point rupture may cause a fatal hemorrhage. In the only case of this series in which hemorrhage apparently caused death, the rupture was a small orifice on the free portion of tube through which chorionic villi projected. The tubal tissues in contact with the ovum offer slight resistance to the fetal elements and being early invaded by the chorionic villi and fetal cells, they soon undergo degenerative changes. The tubal wall is weakened partly by the continuous and gradually increasing distention exerted by the growing ovum and much more so by the erosive action of

the fetal elements upon the maternal tissues. The tubal resistance being thus impaired, rupture is easily brought about either by direct perforation by the growing villi or by any sudden access of pressure, by the clogging of venous channels, or by slight external violence as vaginal examination, coitus, fall, etc.

Bilateral tubal gestation may terminate in tubal rupture in one tube and in tubal abortion in the other.

Tubal abortion and tubal rupture, be the latter intra or extra-tubal, are associated with moderate or profuse internal hemorrhage, either in the lumen of the Fallopian tube, between the folds of the broad ligament or into the peritoneal cavity.

When hemorrhage takes place into the free peritoneal cavity, a practically limitless space, the patient may bleed to death without a drop of blood appearing externally. Blood extravasated in the lumen of the tube, between the folds of the broad ligament or in the peritoneal cavity, either undergoes absorption, coagulation, organization, cyst-formation, or suppuration.

Fate of the Ovum.

The ovum lodged in a tube being always poorly fixed, poorly nourished; most tubal pregnancies come to an end previous to the eighth week. When tubal gestation ends this early, be the termination due to ovular apoplexy, tubal abortion or tubal rupture, the ovum is absorbed. This is the fate of young embryos extruded into the peritoneal cavity, if they be not removed by the surgeon. When, after tubal abortion or tubal rupture, the placenta retains some tubal implantation and contracts new attachments to the pelvic wall, rectum or other viscus or viscera, the placental circulation thereby continuing, the pregnancy becomes tubo-abdominal or tubo-peritoneal in type. Absorption is more difficult after the third month.

In many operations for early tubal gestation, the embryo is found in the tube or in the abdominal or peritoneal cavities. Ovular debris, placenta, decidual cells, fetal rests, chorionic villi, etc., are more frequently found at time of operation than fetuses.

The symptoms of tubal gestation, like those of uterine gestation can be classified into presumptive, probable and positive. The positive symptoms of pregnancy: fetal heart sounds, active and passive fetal movements, palpation of fetal parts, are usually not detected until after the fourth month of gestation. Now as 81

per cent. of tubal gestations terminate before, at or about their eighth week, it can be seen that the positive signs of tubal pregnancy, corresponding to the positive signs of uterine pregnancy, are rarely present and, therefore, rarely detected. In not one of our cases were any of the positive signs of pregnancy present.

Previous to tubal abortion and to tubal rupture, presumptive signs of pregnancy, such as amenorrhea, nausea and vomiting, bluish discoloration of vaginal walls, pigmentation and striae, urinary disturbances, were noted in many of the cases. Amenorrhea is so constant a symptom in tubal pregnancy that its absence is misleading.

Other presumptive symptoms such as nausea and vomiting, colostrum secretion, milk secretion, bluish discoloration of the vaginal wall, enlargement of breasts, etc., are less frequently recorded.

Among the probable signs, the most frequently noted in our series were changes in size, consistency and position of the uterus. "The existence of an enlarged uterus at any time during the child-bearing period should be regarded as presumptive evidence of pregnancy until such a possibility has been conclusively eliminated," Williams.

The most characteristic symptoms that confront the clinician are those determined by tubal rupture or by tubal abortion. Both of these accidents are associated with pain and with internal hemorrhage, the extent of which determines the gravity of the case. Very often the patient first comes into the hands of the physician, some time after she has recovered from the primary shock due to tubal rupture or tubal abortion.

In tubal abortion there may be acute, severe, cramp-like pain, limited to the pelvic region or referred to other portions of the abdomen; there may be absence of pain. In many cases of tubal abortion about the only symptom we have is abdominal pain and uterine colic preceding and accompanying the expulsion of the decidual cast. In tubal rupture, the pain is intense, agonizing, may cause the patient's collapse. It is most marked in the lower abdomen and may be referred to the right side, to the left side, to right kidney region, to the rectum, epigastrium, umbilicus.

Coincident with the lodgment and development of the ovum, the uterus, during ovulation of the ovum, the uterus, during the first three months of tubal gestation, undergoes hypertrophy and its endome-

trium becomes converted into a decidua similar to that observed in uterine pregnancy. Soon after the death of the fetus, the decidua is thrown off, being expelled in shreds, or as a triangular cast of the uterine cavity, with dimensions corresponding to that of the hypertrophied uterus.

Though tubal pregnancy and especially bilateral tubal pregnancy, are frequently operative discoveries, the diagnosis being rarely made previous to tubal abortion or tubal rupture, the following symptoms, taken in conjunction with a suggestive history and suggestive pelvic findings, should make one think of the possible existence of tubal gestation.

a. Presence of the presumptive symptoms and signs of pregnancy: Morning sickness, milk and colostrum secretion, pelvic pains referable to bladder and rectum.

b. Cessation of the menses.

c. Bluish discoloration of the vaginal wall.

d. Softening of the cervix.

e. Changes in size, consistency and position of uterus.

The existence of ectopic pregnancy is highly probable, when, in association with the above, palpation reveals an indefinitely outlined tender, boggy mass to one or both sides of uterus, in a patient who has or has had symptoms of acute anemia and attacks of acute abdominal pain, especially if the abdominal tumor has increased in size with each attack of abdominal pain.

If, during an intermenstrual period with or without a suppression of the menses, a woman has an attack of severe abdominal pain followed by vomiting, collapse, slight uterine hemorrhage, think of tubal abortion. If after a few days or a few weeks, the same clinical picture recurs, suspect the existence of a bilateral tubal pregnancy.

The severe pain of tubal rupture is accompanied or followed by symptoms of abdominal hemorrhage and acute anemia, pallor, dizziness, nausea, collapse, weak thready pulse. In almost all cases associated with the above, vaginal hemorrhage varying in amount, slight, or profuse, and in duration, from 3 weeks to 6 weeks, is said to have been present. These attacks of pain, vaginal hemorrhage and anemia may be repeated.

The treatment of ectopic gestation previous to, at time of, or after tubal rupture or abortion is operative. As stated in some of our previous publications on this subject, we disregard completely the life

of the ectopic fetus and concentrate our efforts to saving the maternal health and the maternal life. The ectopic fetus, in all its various forms and at all periods of its existence, is a menace to the maternal organism. Operation removes in a few minutes what it will require unaided nature, even in the most favorable cases, a long time to accomplish and thereby early secures the safety of the patient.

The operation for the relief of ectopic pregnancy, for the control of its complications and the cure of its sequelae, may be an emergency operation, may be one giving us time for ample preparation of the patient. In a general way it can be said that an ectopic gestation is a malignant growth and the longer it is unmolessted, the greater are the dangers to the mother.

In cases of tubal rupture and also in cases of tubal abortion associated with symptoms of abdominal hemorrhage, operative relief must be immediately instituted. A patient can bleed to death into the peritoneal cavity without a drop of blood appearing externally. Peritoneal flooding calls for immediate intervention. Operation is equally indicated previous to tubal abortion or tubal rupture but under these conditions if the patient be vigilantly watched, a delay of two or three days is not very significant.

In all operations for ectopic pregnancy, we discard the vaginal route. We prefer the adominal route. We are justified in making our diagnoses and basing our management of cases upon presumptive evidence. A large mortality results from delayed diagnoses.

The most immediate danger of tubal abortion or tubal rupture is hemorrhage. Laparotomy permits an immediate and complete arrest of hemorrhage. Laparotomy not only secures absolute hemostasis but enables one to eliminate the danger of post-operative or secondary hemorrhage. It permits a more complete removal of the ovular debris and extravasated blood. It is not necessary to remove all blood from the peritoneal cavity. Let there be no needless traumatizing. Furthermore, laparotomy allows inspection of the pelvic organs and enables one to decide at once whether or not the opposite tube should be removed.

Unilateral tubal pregnancy calls for removal of the pregnant tube. The operator must not be haunted by the thought of recurrence. Recurrence in the opposite tube is exceptional.

We are not justified in sterilizing a

woman just because she has had a tubal gestation.

Remove the unaffected tube:

a. If there be existing in the patient some constitutional state contra-indicating pregnancy such as epilepsy, alcoholism, worst types of neurasthenia, syphilis, mental disease, imbecility, advanced tuberculosis, advanced cardiac, renal, or hepatic disease, bad types of primary anemia.

b. If there be existing in the patient some pelvic deformity preventing delivery through the maternal passages of a viable fetus.

c. If it be imbedded in adhesions, if it be malformed or the seat of a congenital anomaly or of inflammatory, neoplastic or other degenerative changes; hydrosalpinx, pyosalpinx, etc.

In unilateral tubal pregnancy and in bilateral tubal pregnancy there should be no needless removal of tissues or organs. Therefore, if the ovaries are normal or only slightly altered, their preservation will be of great benefit to the patient. In addition to removing the pregnant tube, fetus and ovular debris, correct co-existing pathological states if the patient's condition permits.

The mortality of bilateral tubal pregnancy, skillfully operated on, is very low. It should be nil. In our collected cases, there were only three deaths; two from peritonitis and ileus and one from peritoneal hemorrhage.

Chronic Gastritis—The notable tonic effect which Seng exerts on the glanular structures of the stomach make it one of the most effective remedies at the physician's command in chronic gastritis. One or two teaspoonfuls, shortly after eating, will increase the physiologic activity of the stomach and often afford pronounced relief from distressing symptoms when other measures have failed completely.

Chronic Constipation—In the treatment of chronic constipation, we are learning that we can expect satisfactory results only in so far as we are able. Prunoids owe their gratifying efficiency to their capacity for promoting the natural functions of the intestinal canal. Thorough evacuation follows as a physiologic result, without griping, distress, or the reactionary constipation which is so common after the use of ordinary laxatives and cathartics.

MALARIA FEVER; THE EFFECTS OF ITS TOXINS UPON THE KIDNEYS.

By C. F. Strosnider, M. D., Goldsboro, N. C.

Every one in this age of thoroughness in medicine suspects the throat and the middle ear until both have been found normal, but the blood and urine as a means of gaining diagnostic information are, as a rule, not considered.

I know of no disease endemic in the central and eastern part of our State which plays so important a part in the patient's subsequent life as does malaria. There are many complications to which the malarial victim may fall heir, but at this time I want to direct your attention to the kidneys. The delicate anatomical structure of these organs at once directs our attention to the fact that they are very sensitive to the presence of poisons or toxins. A patient ill with a malarial paroxysm presents every symptom of toxemia, that is, headache, aching of limbs and back, nausea and at times vomiting and diarrhea, fever and sweating. The true explanation of the origin of the paroxysm is through the agency of a toxin liberated by the sporulative act. The existence of a toxin, the product of a malarial parasite is almost universally assumed by students of malaria. The grounds for this assumption are as follows:

1. An analogy with other infectious diseases.

2. The existence of a relative immunity in many people living in endemic districts by the formation of an antitoxin.

3. Degenerative changes in the kidneys, liver, spleen and other organs, not otherwise explainable.

4. Blood changes, such as anemia out of proportion to the number of parasites.

5. Increased toxicity of the urine and sweat, as is evidenced by the toxins stimulating the sweat glands and kidneys, thus giving rise to profuse sweating and frequent voiding as the paroxysm is subsiding.

6. The existence of coma in malaria.

7. The fever and its relation to parasite sporulation.

8. Dr. Rosenow defibrinated and filtered the blood drawn into a normal healthy man. In forty-five minutes the man thus inoculated became chilly, had headache and aching back and limbs. This was followed by a high temperature and drowsiness. Duration of the paroxysm was eight hours. This patient's blood was examined carefully for eigh-

teen days and was found negative to malarial organisms. This experiment proves conclusively that the toxin freed during sporulation gives rise to the paroxysm, and by this toxin's irritative properties the kidneys, as well as other vital organs, are frequently damaged. Two cc. of defibrinated filtered blood from the patient first mentioned, was injected into another healthy individual, gave rise to a slight paroxysm, while 4.5 cc. given to another man caused a more marked reaction with a rise of temperature, indicating in a very definite manner that the severity of the symptoms were directly due to the quantity of poison introduced. Thus a certain dose of toxin is necessary to excite a paroxysm. The aestivo-autumnal parasites do not sporulate as uniformly as do the tertian and quartan, hence the poison is liberated in fractional doses and the fever or reaction is more continuous or irregular.

We may thus attribute the anemia incident to malaria to the mechanical destruction of the red blood cells by the plasmodia and their liberated toxins and the activity of the blood-making organs.

Therefore, it is the constant presence of the malarial toxins that gives rise to the complication in question. In the acute cases this complication should be readily detected by the symptoms of continuous headache, nausea, vomiting, puffiness of face, feet, etc., and, by urinalysis which will show a smoky scanty urine with an abundance of albumin and numerous casts typical of the condition. The pathology of the kidney evidencing the above findings, according to Deitrick, is as follows: "Microscopic examination shows a marked pigmentation of the Malpighian corpuscles together with degenerated tubular epithelium. While the epithelium of the tubules may be healthy, it often shows cloudy swelling and necrosis and in the straight tubules there may be casts of various sorts. In chronic malaria the blood vessels, the glomeruli and the walls of the renal tubules may undergo amyloid degeneration. This is more profuse in the kidneys than in the other organs."

However, it is not the acute cases which catch us off of our guard, but the latent and chronic cases, or in other words the resumé of the one week treatment for the cure of malaria. I do not wish to leave the impression that is always the fault of the physician, but many times the patient who flatly refuses to continue medication until a cure can be effected; or, to those patients, who boy-

cott the physician and proceed to practice medicine on themselves, being aided and assisted by the ever obliging druggist, using as his utopia such preparations as "Grove's Chill Tonic" and quinine irregularly. Therefore, judging from the taste reputation of both, they discontinue treatment as soon as his feelings will permit, for to them the allaying of symptoms is all that is necessary. It is from this class of patients that we get cases who give indefinite or no history of ever having had malaria. Thus it is that without a thorough physical examination, including blood and urinalysis, the real cause will be overlooked and the patient doomed to inefficiency and chronic nephritis. To illustrate the findings in an early subacute case of kidney irritation, the following is cited:

Master E. R. White, age 9 years; residence, city. Family and past history negative to infectious diseases, including malaria. T. P. R., normal. He was found to be underweight and undersize for his age, and anemic. He complained of dull headache, anorexia, extreme nervousness at all times, slept poorly. Frequent attacks known as biliousness. Laxatives necessary thrice per week.

Physical Examination. He was slightly jaundiced, skin dry, muscles generally relaxed, reflexes exaggerated. Handgrip very weak. Heart enlarged, regular, rapid rate with poor volume and hemic murmur at apex. Enlarged abdomen, spleen and liver. Face and ankles slightly puffed. Both kidneys tender to palpation.

Urinalysis. The urine was clear, reaction acid, sp. gr., 1010; albumin negative at 6 a. m., but positive at noon and 6 p. m. Casts: Many fine and coarse granular, also few hyalin and epithelial. Sugar, neg. Bile, moderate amount. Blood: Talquett, 60 per cent.; red cells, anemic; no normoblasts or megaloblasts. Mononuclears and transitionals increased in number and loaded with debris. Tertian malaria segmenting organisms and gametes were present. Two weeks later both types of organisms were present, but decreased in number and stained very faintly; hgb., 75 per cent., albumin, a trace; casts, a few of each variety mentioned. jaundice gone, appetite improved, as well as the other symptoms mentioned. At the end of twenty-one days the blood was clear of plasmodia and the urine free of its pathological elements. The patient made an uneventful recovery. There was nothing special used in this case in the way of treatment save that of anti-malarial.

Cases in Extremis of Kidney Irritation.

—I know of no better way to present this class of cases than to briefly cite the histories of three cases which came under observation during my intern service in the James Walker Memorial Hospital, Wilmington, N. C., July, 1908. These cases were referred to the hospital as heart cases by two local physicians, who themselves had given heart tonics and drastic purgatives a free hand in an effort to save the patients. Owing to overwork and the absence of the patients' parents at the time of admission the diagnosis was not challenged for forty-eight hours, when the meager history and detailed examination revealed the real trouble:

History.—The patient was a colored girl; age, six years; residence, East Wilmington. Negative to malaria. Mother stated that the child was healthy until one year previous to present illness, when she began to lose weight. At the beginning of her illness she had alternating sluggish days. Appetite poor for past six months. Child not able to get enough sleep. Had frequent attacks of diarrhea.

Entrance Note.—Colored girl, undersize, eyes swollen shut. Extremities and body swollen twice normal size. Child stupid; sleeps most of its time. Body cold.

Examination.—Heart greatly enlarged, general valvular insufficiency, pulse rapid, regular with poor volume. Fluid in the pleural and abdominal cavities. Spleen and liver greatly enlarged. Reflexes very sluggish. Unable to open eyes. Temperature subnormal. Nausea, vomiting and diarrhea present. Fecal analysis; negative to ova of intestinal parasites. Urinalysis: color, amber; reaction, acid, sp. gr., 1016; albumin, very large ring; sugar, negative; sediment, many red blood cells, numerous fine, coarse, hyalin, and cellular casts. Blood analysis: hgb., 35 per cent. (Talquett): five red blood cells containing tertian malaria plasmodia to the microscopical field.

Treatment.—Quinine sulphate in solution every four hours day and night for one week, at the end of which time the blood showed plasmodia equally as frequent as at first, but much fainter; hgb., 50 per cent. General anasarca practically gone; albumin and casts less in amount and number respectively. Bearing in mind quinine poisoning, I split the dose of two and one-half grains every four hours for two weeks more, when the blood was found to be free of plasmodia; hgb., 65 per cent.: albumin, small ring;

casts present, but greatly reduced in number. The child was on regular diet, up and about the ward. At the end of three weeks I put the child on three grains of quinine thrice daily. At the end of five weeks the patient was discharged with both the blood and the urine free of their pathological elements.

After finding malaria plasmodia in the blood of the case just cited, I enthusiastically examined the other two cases, one aged eight years and the other fifteen years, with similar history, physical findings, treatment and results as the case cited in detail.

During the summer of 1914 I had fifteen cases of malarial congestion, and five cases of pyelitis due to malaria. Of the congestive cases, six were acute and nine were subacute, four of the latter cases being of the extreme type.

We should not overlook the fact that young children are frequently infected with malaria, such being quite frequent between the ages of eighteen months and ten years. In infants and young children the type of fever is most often quotidian tertian, the paroxysm occurs more often during the night and early morning than in the adult—the mother volunteering the information that the child has cold extremities, pallor, vomiting, drowsiness, and sometimes convulsions. Gastrointestinal symptoms, particularly nausea, vomiting and diarrhea are common. Thirst is intense, restlessness, and wakefulness being frequently due to head and stomach. Enlargement of the spleen is quite constant, edema and anemia quite common together with the complications in question.

To illustrate: In June, 1914, I was called to see a child two years of age with the following history:

"One week ago the baby refused to eat regular diet. It became nauseated and vomited several times every other day at about the same hour, at which time we noticed that the baby had a high fever, nervous and its extremities cold. Two days ago he became drowsy, we gave him a dose of oil and his bowels have been acting very freely ever since. Yesterday he was apparently better. This morning he felt cold and became drowsy, his fever rose, and one-half hour ago he began having convulsions." The child was having convulsions when I first saw him. His temperature was 103 deg. By the energetic use of hydrotherapy the temperature was soon reduced to the realm of safety. Having slides with me, some smears were made and stained and upon

examination four tertian malaria plasmodia laden corpuscles were found to the microscopical field. Hgb., 50 per cent.; widal, negative. Urinalysis showed a large amount of albumin and casts incident to acute nephritis. On the second day following the convulsions the child was unable to walk or co-ordinate any leg or arm movements. The child was treated with quinine hydrochloride by hypodermic, grains three twice daily for two days and then four grains via mouth every four hours for one week, and then thrice daily for two weeks. At the end of four days the temperature was normal, diarrhea, nausea, and vomiting had subsided; and in ten days the blood was negative to plasmodia. The urine was normal in twenty-two days. The motor-muscular system, which gave the parents and the physician much occasion for worry and thought, gradually improved and at the end of three months the child was discharged, well.

Life insurance examiners, for your information the following case is cited:

Mr. B. Age 23 years. White, single, bank clerk. Family history, negative; past history negative, save for an attack of malaria fever four years previous. Has had no chills or fever since original attack. Has suffered with anorexia, headache, muscular weakness, insomnia and nervousness for the past two years. In 1915 he was examined in W. for life insurance, but was refused insurance on account of having albumin and casts in his urine. The examining physician advised him of his serious condition, that of suffering from Bright's disease. The young man was put on a restricted diet, and advised that his case was practically hopeless. In June, 1916, this young man came under my care. He stated that he had no desire for food, was nervous all of the time, could sleep but part of the night, memory poor, had headache every day and was too exhausted to pursue his work. His physical examination was that of the subacute case above cited. Urinalysis, negative except albumin in a large amount, many red blood cells, and many hyalin, fine and coarse granular casts. Blood: many tertian malaria plasmodia and gametes; large mono-nuclear and transitional cells increased in number and loaded with debris. Hgb., 60 per cent.

Treatment.—Antimalarial pushed for three weeks; then reduced, but continued for three weeks longer.

Results.—At the end of three weeks the urine was clear, one gamete found to

the slide. At the end of six weeks the blood was clear of gametes; hgb., 80 per cent. The patient had gained twelve pounds and had secured the desired amount of life insurance.

Death as a result of kidney disease is far greater in the tropical and subtropical zones, the habitat of malaria fever and mosquitoes, than in those zones free and not thus encumbered.

Let us ever be on our guard and treat malarial infections as a serious and dangerous disease. After ten days of illness from malaria, when improperly treated Craig says gametes develop in the blood of the patient which are capable of infecting the anopheles mosquitoes. Hence you see the importance of effectual treatment of all acute cases within ten days. It is strange but true that a large proportion of the profession appear to believe that a few doses of quinine, if followed by the disappearance of symptoms, signifies the cure of the infection. As a matter of fact quinine in the treatment of malaria is like mercury in the treatment of lues, in that its use must be persisted in for a considerable time after the symptoms of infection have disappeared, if one desires to really cure the patient and thereby avoid the sequence in question.

Migraine—The bromides, especially when used in the form of Peacock's Bromides, have a very important indication in the treatment of these periodic headaches commonly spoken of as migraine, "sick headache," hemicrania, etc. A teaspoonful every two or three hours not infrequently affords relief in a few hours, and prevents sick headaches from running their usual course of two or three days.

Our readers' attention is called, elsewhere in this issue, to a recent announcement of considerable importance to the profession having to do with Diphtheria Antitoxin, Lilly.

Despite government regulations there is possible a wide range of difference in antitoxin, and distribution and packages differ as well. Diphtheria Antitoxin, Lilly, is now supplied in one type of package and at an attractive price. It is a purified, highly concentrated product, only the globulins containing the antitoxic bodies being used. Diphtheria Antitoxin, Lilly, is easy to secure through the drug trade from stocks kept under proper storage conditions.

BIRTH PALSY.

By Jacob Grossman, M. D., Chief Orthopedic Surgeon Lebanon Hospital O. P. D., Chief Orthopedic Surgeon Stuyvesant Polyclinic, Instructor and Assistant Orthopedic Surgeon New York Post-Graduate Hospital and Medical School.

Birth palsy is a paralysis of either the arm or forearm individually or in combination, produced during birth. It is usually the result of an injury to the nerves of the brachial plexus. The resultant paralysis is characteristic. When seen early the arm hangs limply at the side. Later the elbow becomes flexed, the forearm pronated and the entire upper extremity inwardly rotated.

It is evident that the paralysis is due to forcible separation of the head and shoulder, resulting in a tear of some of the cords of the brachial plexus. There are two well recognized types of paralysis seen. The more common consists of a lesion which involves the fifth and sixth cervical roots and the suprascapular nerve. This type known as the upper arm type, produces a paralysis of only the muscles of the upper arm, with the exception of the supinators. The other type known as the lower arm type, results from not only the injury of the fifth and sixth cervical roots, but also of the seventh and eighth and possibly of the first thoracic. The entire upper extremity is flaccid, there is a wrist drop and paralysis of the small muscles of the hand. In the milder cases the stretching or tearing force results in a hemorrhage or edema into the nerve sheaths. In others there may be a rupture of the perineural sheath, accompanied by hemorrhage into the substance of the nerve trunk, with or without a tearing apart or a separation of the nerve fibers. In the severer cases there is either a partial or complete division of the fifth and sixth cervical roots.

The early picture of the upper arm type is classical. The arm hangs limply at the side, slightly flexed, and rotated inwardly. There is complete inability to abduct, elevate outwardly or supinate the upper extremity. There is absence of active flexion at the elbow.

In the lower arm type, in addition to the above, there are paralysis of the forearm and the hand. Wrist drop, inability to supinate and extend the forearm are usually present. Paralysis of the flexors and extensors of the fingers, associated with paralysis of the small muscles of

the hand are often present. The proximal phalanges may be hyperextended and the distal ones flexed due to a paralysis of the interossei or lumbricales.

The treatment of birth palsy resolves itself into expectant and operative. The upper arm type usually responds to massage, exercises and a brace. The lower arm type as a rule have to be operated upon. Unless the treatment has been instituted early enough in the former, operative interference becomes necessary. This operation is not for repair of the plexus, but to correct contraction deformities.

To prevent these contraction deformities it is well to place the arm at rest in a position where the unparalyzed muscles cannot become contracted. This is best accomplished by the use of a wire splint which will retain the arm in an abducted, elevated and outwardly rotated position, with the hand in supination.

Massage and exercises are of greatest importance and should be practiced daily. This treatment should be continued for several years, and if contractures develop in the subcapularis and pectoralis major, they should be divided before any further range in the arm is to be hoped for.

Regarding operation on the plexus—it should be done early, the earlier the better. It comprises repair as far as possible of any injury or damage to the nerve roots that may be encountered. The after care is similar to that recommended above, i. e., prevention of deformity, massage and exercises.

The prognosis in all upper arm types is good, provided treatment is carried out properly and early enough. In the lower arm type the outlook is not so favorable. The upper arm may recover but the forearm and the hand remain paralyzed. Treatment should nevertheless, be carried out over a long time.

Alcoholic Polyneuritis.—Juarros reports the case of a woman aged 38 who was addicted to the abuse of alcohol, ether, and morphine. Her father had been a syphilitic, but her own Wassermann was negative. She was attacked with what appeared to be rheumatism, but later there developed motor weakness and anesthesia with pains despite her morphine addiction. The pains ceased on suppressing the alcohol. There was some mental impairment, which suggested a possible Korsakoff's disease.—*El Siglo Medico*.

VOLUNTEER MEDICAL SERVICE CORPS.

Statement by Dr. Franklin Martin, Member of Advisory Commission and Chairman of General Medical Board, Council of National Defense.

Foreword.

The Volunteer Medical Service Corps was authorized by the Council of National Defense on January 31, 1918. Under this authorization the membership of the corps consisted of all physicians who because of over-age, physical disability, dependents and essential home needs were not eligible for service in the Medical Reserve Corps of the Army or Navy.

Enlarged Scope of the Organization.

On August 5th the Council of National Defense authorized a change in the scope of the organization and an increase and amplification of its Central Governing Board. Membership in the Corps as now authorized, makes eligible to the Corps every legally qualified physician, including women physicians, holding the degree of Doctor of Medicine from a legally chartered medical school, without reference to age or physical disability, provided he or she is not already commissioned in the Government Service. This organization has now the approval of the President as indicated in the following letter:

The White House,

Washington, August 12, 1918.

"My Dear Dr. Martin:

"I have received your letter of August 5, laying before me the matured plan for the reorganized Volunteer Medical Service Corps, of which you ask my approval. This work was undertaken by you under the authority of the Council of National Defense; it has had great success in enrolling members of the medical profession throughout the country into a volunteer corps available to supply the needs of the Army, Navy and Public Health Service. In co-operation with the General Medical Board of the Council of National Defense, the strong governing board of the reorganized corps will be able to be of increasing service, and through it the finely trained medical profession of the United States is not only made ready for service in connection with the activities already mentioned, but the important work of the Provost Marshal General's Office and the Red Cross will be aided and the problems of the health of the civilian communities of the United States assured consideration. I am very happy to give my approval to the plans which you have submitted, both because

of the usefulness of the Volunteer Medical Service Corps and also because it gives me an opportunity to express to you, and through you to the medical profession, my deep appreciation of the splendid service which the whole profession has rendered to the nation with great enthusiasm from the beginning of the present emergency. The health of the Army and the Navy, the health of the country at large, is due to the co-operation which the public authorities have had from the medical profession; the spirit of sacrifice and service has been everywhere present and the record of the mobilization of the many forces of this great Republic will contain no case of readier response or better service than that which the physicians have rendered.

"Cordially and faithfully yours,
(Signed) "WOODROW WILSON."

At a meeting of the Central Governing Board, held on Friday, August 2, it was moved by Dr. Sawyer, seconded by Dr. Martin, that the Central Governing Board shall consist of the present Central Governing Board (excepting Sherk, Bradford, and Brophy), and others as follows:

Surgeon General William C. Gorgas, U. S. A.

Surgeon General William C. Braisted, U. S. N.

Surgeon General Rupert Blue, U. S. P. H. S.

Provost Marshal General E. H. Crowder.

Dr. Franklin Martin, Chairman of Committee on Medicine and Sanitation, Council of National Defense.

Dr. Edward P. Davis, President, Volunteer Medical Service Corps.

Dr. John D. McLean, Vice-President.

Dr. Charles E. Sawyer, Secretary.

Admiral Cary T. Grayson, U. S. N.

Dr. F. F. Simpson.

Dr. Frank Billings.

Dr. H. D. Arnold.

Mr. W. Frank Persons—Red Cross.

Dr. Victor C. Vaughan.

Dr. William H. Welch.

Dr. Robert L. Dickinson, Chief of Staff's Office.

Colonel R. B. Miller, U. S. A., Chief of Personnel Division.

Surgeon R. C. Ramsdell, U. S. N., Chief of Personnel Division.

Colonel James S. Easby-Smith, Executive Officer.

Dr. Joseph Schereschewsky, Assistant Surgeon General (Personnel).

Dr. C. H. Mayo or Dr. W. J. Mayo.

Dr. William Duffield Robinson.

Dr. George David Stewart.

Dr. Duncan Eve, Sr.

Dr. Emma Wheat Gillmore.

General Plan.

The Volunteer Medical Service Corps is exactly what its name indicates. It is a gentleman's agreement on the part of the civilian doctors in the United States who have not yet been honored by commissions in the Army and Navy, and a representative board of governors consisting of officials of the Government associated with lay members of the profession, in which the civilian physician agrees to offer his services to the Government if required and asked to so do by the Governing Board.

It is a method of recording all physicians who are not yet in service and classifying them so that their services when required will be utilized in a manner to inflict as little hardship on the individual as possible. It is a method by which every physician not in uniform will be entitled to wear an insignia which will indicate his willingness to serve his Government.

As more than sixty per cent. of the physicians of the country will be utilized in caring for the industries at home and the health of the home people, this large percentage of necessity will be expected to maintain their home status and continue their ordinary professional work.

British Doctors to Have Women Chauffeurs.—Sir Watson Cheyne was asked in the British Parliament whether the chauffeurs of doctors might not be exempted from military duty, because doctors were very dependent on experienced drivers. The Parliamentary Secretary for the Ministry of National Services said that in exceptional cases time might be given to find a substitute, but men were too urgently needed to make the concession general and women would have to be used as drivers.

Food Conservation in Switzerland.—The Swiss Medical Commission reported in February that on account of the alarming food shortage no more barley, maize, rice, or other staple be utilized for brewing. The distillation of cherries, plums and grains, the manufacture of cider drinks from fruits and wine from grapes should be restricted as much as possible. Bars should be allowed to keep open only four hours daily, two each half of the day. —*Revue Medicale de la Suisse Romande.*

The Vaccine Treatment of Hay Fever.

It will not be long until hay fever victims will again seek relief from their suffering. Unfortunately, the endless variety of drugs and local treatments that have been applied for this ailment have been so unsatisfactory that most hay fever victims have abandoned consulting doctors and simply tolerate the disease as best they can until the season is over with. This does not apply, however, to those who have given the vaccine treatment a trial. Hay fever victims find that this treatment either prevents or aborts the attack or gives such relief that they come back for the same treatment when the season approaches.

The writer has made some special efforts to obtain reliable information concerning the comparative virtues of pollen and bacterial vaccines in the treatment of hay fever and has found that bacterial vaccines give by far the best results. This shows that pollen irritation is not the only etiologic factor in hay fever and that irritation from pathogenic organisms also plays an important part in the disease. In fact, are common in irritated tissues, no difference what the source of the irritation is and, consequently, aggravate and prolong the irritation. That is what undoubtedly happens in hay fever.

Pollen and the dry dust laden air irritate the respiratory mucus membrane. After this irritation is started, pyogenic organisms normally present find conditions suitable for growth and multiplication with a resulting increased irritation.

The germs usually responsible for this irritation are the streptococcus, pneumococcus, staphylococcus and micrococcus catarrhalis, the same organisms that are responsible for most of our colds. For this reason the same vaccine usually employed in the treatment of colds (Sherman's No. 40) is also successfully employed in the treatment of hay fever.

Treatment should be started by giving the vaccine a few weeks before the usual onset of symptoms. By this means the attack will often be entirely avoided. The vaccine should be given at four or five-day intervals, starting with .5 mil. and increasing the dose to 1 mil. In some cases that have received this preliminary treatment, hay fever will set in with the usual pronounced symptoms, but if the vaccine injections are continued at three or four-day intervals in 1 mil. doses, the symptoms will soon subside or become much modified. Good results are also obtained after the hay fever has progressed for several weeks, but in such cases it is nec-

essary to give 1 mil. doses at three or four-day intervals until the acute symptoms are under control and at four to seven days after that. If marked improvement does not take place after three or four treatments, a bacterial examination should be made to determine the presence of unusual organisms and if present a corresponding vaccine employed or an autogenous vaccine prepared and given.—G. H. Sherman, M. D., Detroit, Mich.

License to Practise Medicine.—The Illinois Appellate Division holds that the State Board of Health has the right to sue for and recover the penalty provided in the Illinois statute relating to persons practising medicine or treating human ailments without a certificate issued by that board, and providing that such persons shall forfeit and pay to the People of the State of Illinois for the use of that board certain sums to be recovered in an action of debt. One who advertises, professes, offers, undertakes, or pretends to undertake to diagnose, treat, heal, or benefit a patient, regardless of whether that patient is or is not suffering from any actual ailment or disease, and who charges or accepts compensation therefor, is practising medicine within the meaning of the act. Evidence was held sufficient to show that the defendant was practising medicine within the meaning of section 2 of the act, providing that it shall be unlawful for any person to practise medicine in any of its branches without a license so to do from the State Board of Health, and section 9, providing that any person shall be registered as practising medicine within the meaning of the statute who shall treat or profess to treat, operate on or prescribe for any physical ailment or any physical injury or deformity of another, where the defendant undertook or pretended to diagnose, treat and cure the trouble of his patients by a general formula of diagnosis that "the bones or vertebrae of your back are out of their normal or proper position, etc.," and advertised and assumed or pretended to be able to "place those bones of the back in their normal or proper position," the result of so doing to be health, such adjustment being or being pretended to be by applying pressure and applying pressure and manipulation with his hands.

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WAR AND THE PSYCHONEUROSES.

Most likely more than one entity is included under the term "shell shock," and in speaking of neuroses occurring in war times, one should differentiate so that cases due really to shock which may result in a physical injury to the nervous system, are not included in the class which is of purely psychogenic origin.

Investigation of the psychoneuroses of war origin has shown that the psychic factors concerned in their causation are of prime importance. We all know that in every day life some very minor incident is often the exciting factor in the onset of a psychoneurosis. On the other hand, we see cases in which a greater trauma, like the death of a relative, loss of money, injury of or to accident the patient may precipitate an attack. Yet the symptoms produced in the first class of cases are not of necessity any different or of less severity than those in the second. Of first importance is it in these cases to take into consideration the individual in whom the psychoneurosis has resulted. We have come now in a general way to realize that a neurosis is an individual attempt to solve a problem with which he has come face to face. One individual meets the loss of a fortune with a nervous breakdown. Another, on the contrary, with plans for re-establishing himself. One man will go into a neurosis at the unfaithfulness of his wife. Another, on the contrary, starts a suit for divorce.

If you examine carefully into the psychic make up of the neurotic, you will find many traits which we say are characteristic of the neurotic: Chief among them are an extreme self-consciousness, secretiveness, uncertainty and hesitation; a lack of self-confidence, fear and tendency to undue worry and anxiety; an inclination to live in the past—on by-gone days—avariciousness, envy, hate, markedly cruel impulses, both passive and active. Many of those neurotically pre-disposed are given to excessive enthusiasm, with consequent depression when the enthusiasm dies out. Such are usually high strung and extreme in their feelings.

When one takes into consideration that it is from this class of people in addition to the normal that the fighting force is recruited, one will readily see that the seeds of a psychoneurosis are all ready sown before the individual actually joins the army. Perhaps it were better to say that the ground is prepared for the coming to life of a psychoneurosis. Take into consideration the very many reasons a man will give himself as to why he should not go to war—family ties; actual physical fear of battle, pictures of the conflict, the horrors of the battle field, the sufferings of the wounded, and the like. Remember also that most of these individuals will deny that such feelings possess (in some instances, obsess) them, and attempt to put on a very brave front. We all know what a potent factor fear is in the cause of neurotic manifestations. We know, too, that memories of frightful experiences, actually lived through, heard or read, often remain with the individual for many years, losing in time very little if any of their vividness or emotional value.

It is just in such individuals that the war psychoneuroses manifest themselves. The war in their cases acts as a precipitating cause—such individuals often present histories which show previous attacks of nervous disease, or well developed neurotic tendencies.

Under the circumstances, treatment is directed along two lines. One preventative—by the exclusion from active military service of all those who have had definite neurotic or psychotic disease. Such individuals are bad risks as fighting men. The certain line of treatment might embrace all that we know of the methods of treatment of functional nervous disease, with especial attention to the problems of the individual patient as ascertained through a careful, detailed history.

RADIUM.

In the last issue of The Journal, our readers were presented with a most interesting article on "Fibroid Tumors of the Uterus Treated with Radium." The medical profession concedes that Dr. Howard A. Kelly and Dr. Curtis F. Burnham of Baltimore, possess a superior knowledge of the use to which radium may be relied upon in the treatment of such diseases to which it is applicable. They possess more radium than is held by the whole medical profession combined, hence we must rely upon them as to the true nature of its efficacy.

"In the group of 211 cases of uterine fibroids thus treated with radium, the average age on admittance was 43." How many cases of uterine fibroids have subsided after the menopause? How many women go beyond forty-three years to reach the same? How many cases of artificially produced menopause has been brought on by removal of the ovaries, following which the fibroid tumors have disappeared?

Some thirty to forty years ago, somewhere in England, possibly in Birmingham, a most celebrated surgeon wrote an interesting article upon the subject of uterine fibroids. What stands out most prominently, in the memory of the general practitioner is what he said. "When a patient comes to me, who is over forty years of age, and I find her the possessor of a uterine fibroid tumor, my advice is to wait until after the menopause before considering an operation."

Radium and the Roentgen Rays both destroy the functuating power of the ovaries, but recently it has been shown that such effect is only temporary, since within a reasonable time the power comes back. Removal of the ovaries obviously destroys them completely as is occasioned by the menopause.

It is up to the medical profession to choose at this period of life, i. e., over forty years, at which time most of the fibroids occur, the proper course to pursue. Will you submit your patient to the uncertain radium or X-Ray, the removal of the fibroid, together with the uterus and the appendages, or wait?

HYSTERIA.

When Adam was told to give names to the things that came before him, he called them exactly what they were; and that ended it.

When—some time in the sixteenth century—Rislau noticed the inconclusive conglomerate phenomenon of physical, nervous, and mental aberrancy and was compelled to give it a name, he called it exactly what it was not; and confusion has followed ever since. But so faithfully descriptive was his terminology that today the name hysteria, that Rislau coined to describe his mistaken pathology, is still used as a convenient cover for what is not known regarding the real pathology, over which Rislau fell down.

There are some diseases, and this is one of them, whose manifestations at once suggest the presence and workings in the human body of a general physical

demoralization. And at once, again, this demoralization picture contrasts itself in the mind of the observer, with the opposite picture of a human body of perfect functional harmony. Then, while studying these two pictures of unlike systemic functionings, as they have been known to be present in the same human body, but at different times, the question as to the cause of physiologic function on the one hand, and of pathologic function on the other—these questions naturally force themselves upon the observer.

In other words: Given to start with, the syndrome of orderly physiologic systemic functioning of one day, then what can it be that the next day over-rides, and makes chaos of that orderliness? These are the questions that came to Rislau, as he studied his patient; and in answering to himself the question, he said to the women standing around that, "Her womb is flying from one part of her body to another. You see that now, it's in her head; a minute ago it was in her hair; and presently it will be in her leg again."

The disastrous outcome of that kind of pathologic statement was that every woman present believed she herself had a womb, and she also believed that her womb could go any place that any other woman's womb could go. That belief is, so to speak, the contagium of hysteria. Or, if the hysterical paroxysm with its attendant settings originated the desire in the woman to be the object of such mysteriousness—and that desire is the contagium; then her belief that she was equal to the task of repeating the performance—that belief is the road over which the contagium routes itself.

There will come a day when a Sajou, or a Rosenow, or a Hektoen will point out just which anatomical or functional center it is that that belief borne desire focusses upon, to precipitate the hysterical seizure, and then the mystery of the pathology of hysteria will be cleared up.

Unless though, it is proven that the hysterical center is particular to hysterical persons only, there will still be left for some one else to explain why it is that the center gives way in one person, and maintains its integrity in another? Because, as one investigator puts it: "There is as much probability that some men will fall pregnant, as there is that some women will ever have hysteria."

It seems that there must be in the individual a state of hysterical preparedness, awaiting the oncoming of the excitant. Neurologists and psychiatrists

say such is the case, and that the hysterical potential is hid away in subconsciousness of today, becomes the one layer deep subconsciousness of tomorrow; and so on down to the depths of years. After a while, they say, the hopes and fears of buried consciousness erupt, and give vent in hysterical paroxysms, to long pent up revengeful instincts. The theory has of course a theoretical foundation and fails to get anywhere in particular, just as did the hypothesis of Rislau.

THE PNEUMONIA SCARE.

The unusual (?) prevalence of pneumonia throughout the United States, has been unprecedentedly alarming to the laity, particularly so as to its fatality, indeed, to such a degree that the slightest cold to them becomes a precursor to a fatal attack of this malady, immediately driving them to their family physician. "Threatened with pneumonia" is usually the diagnosis they receive, given, we must confess, either through ignorance, hence honestly, or else for the purpose of convincing the patient that he is sicker than he really is. This latter must be left to the conscience of the physician.

What has fright to do with it? We are forced to acknowledge that every physician who has had experience, must concede the fact that a patient, seized with a malady from which a number of his acquaintances have died, is much more difficult to treat than one not hampered with such knowledge.

During these times, most strenuous to us all, coupled with the demand of the public to be informed as to conditions generally, we hear of more cases dying of pneumonia, than ever before came to our knowledge. When one of our citizens, no matter from what district, has become a soldier, and dies from this malady, the fact is on the lips of every citizen of the community from which he went. Then comes another and another, let us all say until a dozen fatal cases have been reported. Have you stopped to think that had these twelve died of this particular disease, there would have been naught but a brief notice of their death, without the cause being brought before the public? Whereas, dying for their country, every secular paper has anywhere from a large notice to several columns, concerning the sad event.

Physicians cannot stop the progress of this serious malady, except through proper sanitation, but there is one thing they can do. Let them be honest with

their patients, and tell them that when pneumonia attacks them, it proclaims itself most decidedly from the very beginning accompanied with high temperature, and a decided pain in the region affected. Tell them that an ordinary cold, unless neglected, seldom, if ever, leads to pneumonia.

Examining the records of one of the most successful insurance companies in America we find that their statistics show that, if anything, the death list from pneumonia, relatively considered is no greater at the present time than it has ever been.

MICHIGAN SUPREME COURT RULES STERILIZATION UN- CONSTITUTIONAL IN THAT STATE.

The legislature of Michigan recently enacted a law providing for the sterilization of mental defectives and insane persons, cared for in part or wholly at public expense, in public institutions of the state. A decision lately handed down by the Supreme Court of the state declares the law unconstitutional because the statute arbitrarily selected for sterilization only those confined in certain institutions. The opinion considers the question at length showing that out of what is ordinarily regarded as a natural class of defectives and incompetent persons, the legislature in enacting the law made its provisions applicable only to those already under restraint in public institutions, and left immune from its operations all others of such individuals to whom the reason for the legislative remedy is normally and equally applicable. Hence the statute is said to come within the bounds of the constitutional prohibition against class legislation.

Unfortunately the learned court did not pass upon the vital principle of sterilization of mental defectives and insane persons; this question not being presented before the court, which naturally restricted its findings only to the single proposition of the statute being class legislation.

It is to be hoped the legislature of Michigan will promptly re-enact a measure carrying the excellent provisions of the former nullified statute, and making the same applicable to all mental defectives and insane persons resident in the state, safeguarding it of course with proper restrictions.

In the meanwhile, the legislature of North Carolina meets next January, and

our thoughtful and progressive citizens will do well to see that a similar measure is presented for the consideration of this body. The right of a state to protect itself and its citizens from all hurtful and injurious influences is well established, and there can be little question that the principle of removing a portion of the human body, in no wise essential to the life or welfare of the individual, if its continuance menaces society, is just as essentially correct and lawful as it is to restrain the physical liberty of such person.

Again in this connection there should be brought to the attention of those opposing the enactment of such wise legislation as a properly framed sterilization law unquestionably is, the fairly frequent performance of ovariectomies and testiculectomies in every community. A knowledge of this would it seems go far toward removing the sentimental objections urged against societies protecting itself against further procreation by the known defective classes.

WHY SHOULD THE SURGEON GENERAL APPEAL FOR MEDICAL OFFICERS?

Of the 146,000 doctors in the United States, it is a safe calculation that at least 70,000 of this number are within the age limit, from 21 to 55 years, and are physically and morally qualified to serve as Medical Reserve Corps officers.

Why, in view of this fact, the Surgeon General's Office should be hard put to secure a sufficient number of medical officers to supply immediate demands and to furnish a Reserve force of between forty and fifty thousand doctors is not quite comprehensible.

Every qualified physician, knowing how essential his services are to his country at this particular time, should consider it not only his duty, but a privilege to take part in this glorious struggle for humanity and democracy.

This is the time when individual opinion must be sacrificed for the benefit of the whole and the time is near when every doctor must be in one or two classes: either a member of the Medical Reserve Corps, United States Army, or in the Volunteer Medical Service.

If you are between the age of 21 and 55 years, and there is a doubt in your own mind as to whether you are qualified or not, let the Surgeon General determine this matter by applying at once to your nearest Medical Examining

Board for a commission in the Medical Reserve Corps.

FEDERAL EFFORTS TO CONTROL VENEREAL DISEASES.

There was some score and a half years ago an old negro preacher in Richmond, Va., who attained a nation-wide celebrity over a favorite sermon he often preached entitled "De Sun Do Move," and the visitor to that famous Southern city of respected traditions, never went away feeling his trip to the historic city was quite complete without having sat under the pulpit ministrations of the old darkey. In that epoch in our history, it was impossible to interest either state or national government in health questions costing money. About that time careful consideration began to be accorded the study of horse, cow and pig diseases, later the diseases of cotton, cane, corn, etc., received attention, and the needed appropriation, but the people continued to wait for governmental efforts and funds for the consideration of their diseased conditions.

The Great War is rapidly advancing civilization, and governmental functions for the bettering of the governed become the order of the day, and many hitherto unthought of activities are daily assumed as proper avenues for serving the people and advancing the civilization and the betterment of the race. Quite in line with this is the recent determination of the federal authorities to expend \$1,000,000 through the state boards of health of the various states in venereal disease control during the year ending June 30, 1919. This princely sum is now available, under regulation established by the Secretary of the Treasury, by an Act of Congress approved July 9, 1918. An officer of the Public Health Service will have charge of the work in each state working in co-operation with the State health officer. The activities as outlined by the federal authorities are as follows

(a) Securing of reports of venereal infections.

(b) Control of those infected, so as to prevent further spread of the diseases.

(c) Establishment of free venereal clinics.

(d) Suppression of vicious conditions which favor the spread of venereal infections.

(e) Carrying out of systematic educational program for the general public as well as for those who are infected.

The act gives authority for a new di-

vision in the Bureau of the Public Health Service, to be called the Division of Venereal Diseases. Such a division has been organized and a chief appointed.

The act also grants authority to the Public Service for the regulation of the interstate travel of venereally infected persons. The regulations are in course of preparation.

A well known Carolina physician in the U. S. Army was expected a few weeks ago to return to his native state and assume control of this work, but later orders continue him in the U. S. Army service elsewhere, and announcement will be made later of the officer detailed with fuller data as to his methods. Meanwhile, physicians, sanitarians, social workers, ministers of the gospel, fathers, mothers, in fact every good and thoughtful citizen, should endeavor to lose no opportunity afforded to inform themselves of the grave menace the social disease are to humanity with a view to according the fullest possible co-operation to this admirable purpose of the federal authorities in doing some wholesome work that should and will greatly benefit the people.

WHITE SNAKE-ROOT (EUPATORIUM ARTICAEOFOLIUM) A CAUSE OF "MILK-SICKNESS," OR "TREMBLES" IN ANIMALS.

One hundred years ago physicians resident in rural sections of Western North Carolina and Virginia, in the state of Tennessee, Georgia, Alabama, and most of the states developing in the Great Middle West, from time to time, reported observing cases of a disease attended with a marked degree of fatality and affecting alike men and animals. A pronounced symptom was a general muscular tremor, hence the common name, "trembles" was given to the affection in animals, cows, horses, pigs, sheep, etc., while it was generally assumed that the most frequent source of the disorder in man was from milk of cows with the disease, and in man it was termed "milk-sickness."

From occasional journal articles in the earlier half of the past century, including the observations and writing of Daniel Drake, to the more recent contributions to the literature of the subject by Reagan (*Med. World*, 1884); Way (*Jour. Am. Medical Sciences*, 1893); Walsh (*Ill. Med. Journal*, 1909), and articles by 121 other American physicians, a fairly ac-

curate clinical picture of the disease has been gleaned and become the common property of the profession, though very few of present day practitioners doubtless ever saw a case. An absence, of its consideration by medical teachers, and its non-appearance in their text-books as a rule since about 1860 created the impression among many well informed physicians that the early rural practitioners of the states mentioned, were in error, no such disease existing.

From 1832 when Drake first wrote of it to about 1860, occasionally a text-book on practice referred to it (Dickinson at one time a practitioner of Wilmington, N. C., and later a distinguished teacher of Philadelphia, Pa.), published a good description of it in his volume. But in the main, no notice was taken of the disorder except the infrequent clinical notes sent in by some busy rural practitioner until 1887, when Wood's *Ref. H. Book* contained an excellent description by Beach an Ohio physician, and a few years later. Way gave a good account of it in the *Journal Am. Med Sciences*, when Osler shortly after included the affection in his classical work on practice, being followed also by Anders whose recent volume gives possibly the best and most modern text-book account of it.

Fierce controversy raged for many years between the rural advocates of the three theories of the disease; a mineral poison, micro-organisms, and poison plants.

Each of these sources of possible origin have had their adherents, vigorous declaimers of their views, and dependent almost wholly upon clinical observations to test out theories and results. Occurring in isolated rural districts only, and disappearing when such areas were brought under cultivation and populated, it is easy to understand why its pathology remained enshrouded in mystery so long. The recent growing importance of the dairying industries in the mountain section of Western North Carolina, and the occasional occurrence of cases of "trembles" in cattle and sheep, has led the North Carolina State Department of Agriculture at Raleigh, N. C., to undertake a series of careful studies, coupled with some rather extensive experiments, on the origin, development and course of "trembles" in sheep and cattle, with the apparent net result of finding definitely, that the feeding of such animals with white snake-root will positively produce in sheep and cattle the affection in typical classical forms. The Department of Ag-

riculture has issued a brochure of some seventy-five pages, July, 1918, detailing the experiments and their findings. A perusal of which will satisfy the most skeptical physician that an exceptionally good piece of scientific study has been performed by those responsible therefor, with the practical result that doubtless, with the publicity to be given their findings among the farmers of the mountains, the conditions will be changed so that "trembles" will shortly cease to be known in the medical nomenclature of the mountaineers, save as a matter of history.

THE DOCTOR'S VACATION

The doctor should make it a fixed rule to set aside some time from his work at least once a year, for rest and recreation in whatever way he most prefers. He owes it to himself and his community, to get out and away from his work, that he may more satisfactorily perform his work when he returns.

There is something about the grind of medicine that takes the best there is out of a man and leaves him insipid and flat, unless he gets away from time to time. Naturally men differ in this respect; one may apply himself intensively to work for years with no apparent injury while another may require frequent periods of rest. No one is injured however by the careful and judicious use of time set aside for vacation purposes.

A young medical man will derive his greatest benefit if he devotes his vacation to study at some leading medical school or clinic or in attending medical conventions. In this way he meets the real men of his profession, takes on new ideas and recharges his spent energy. As a doctor advances in years, he may find it necessary to get away from his work entirely; he may feel the need of an occasional hunting or fishing trip, or a visit among old friends.

In whatever manner or way a doctor most prefers to spend his vacation, the essential thing, is to take a vacation, and this regularly, even though the doctor may feel that he can ill afford to spend the time and money and suffer the necessary loss of business while he is away. But this is compensated for by an increase of business later.

The doctor's vacation, used with discretion, may be in reality the best investment that he can make. It gives him a larger measure of happiness, improves his mental equipment and actually increases his practice.

A. N. B.

TO PHYSICIANS OF AMERICA

Surgeon General Gorgas has called for 1,000 graduate nurses a week—8,000 by October 1.

25,000 graduate nurses must be in war service by January 1—in the Army Nurse Corps, in the Navy Nurse Corps, in the U. S. Public Health Service in Red Cross war nursing.

This involves withdrawal of many nurses from civilian practice and necessitates strict economy in the use of all who remain in the communities.

You can help get these nurses for our sick and wounded men by—

Bringing this need to the attention of nurses.

Relieving nurses where possible wholly or in part from office duty.

Seeing to it that nurses are employed only in cases requiring skilled attendance.

Insisting that nurses be released as soon as need for their professional service is ended.

Seeing that your patients use hospitals instead of monopolizing the entire time of a single nurse.

Encouraging people to employ public health nurses.

Instructing women in the care of the sick.

Inducing high school and college graduates to enter the Army School of Nursing or some other recognized training school for nurses.

Encouraging nurses to go to the front involves real personal sacrifice and added work on the part of the physicians whose duty it is to maintain the health of our civilian second line defense.

But the men who are fighting for their country in France need the nurses.

Gallstones.—Althabe and Nicholson (La Semana Medica), review 240 cases of gallstones with the following conclusions: The condition is more common in women, the usual age of occurrence is between twenty-five and thirty, and surgical measures are indicated in every case where medical treatment has been unsuccessful. The operation of election is cholecystectomy with gauze drainage of the cystic duct; the drainage of the hepatic duct is not only practicable, but should be carried out in every case of lithiasis of the duct or duct infection.

EDITORIAL NEWS ITEMS

Dr. J. D. MacRae, formerly of Fayetteville, N. C., has been promoted to the rank of Major in the Medical Reserve Corps and is now in France.

Dr. John Gainey, formerly of Lumberton, N. C., is now a lieutenant in the Medical Reserve Corps of the Navy and is now stationed at Paris Island, S. C.

Dr. S. W. Battle, Asheville, N. C., formerly Surgeon U. S. N., and also at one time Surgeon General N. C. N. G., has received an appointment to duty in Washington, D. C., with the Council of National Defense and has reported for active service in aiding the placing of physicians under the selective draft system.

Cpts. Thos. P. Cheesborough (Asheville, N. C.), and **Benj. K. Hays** (Oxford, N. C.), are active members of the staff of the U. S. Army Hospital No. 16 at New Haven, Conn., busily engaged with tuberculosis cases.

At a recent meeting of the Marlboro, S. C., Medical Society, all the doctors present volunteered for service in the army. Dr. C. R. May, secretary of the society, who was appointed to enroll the physicians of the county, furnishes the following list of volunteers:

Drs. J. F. Kinney, C. R. May, W. J. Crosland, Thomas H. Smith, and T. H. Reese, colored, of Bennettsville.

Drs. J. A. Hamer, W. M. Reedy and C. S. Evans, of Clio.

Drs. J. C. Moore, A. M. Buchanan and Douglas Hamer, of McColl.

Dr. J. H. Reese, of Tatum, and C. D. Napier, of Blenheim.

The state council of defense will select from the volunteers the physicians who are to go into the service.

Wayne County, N. C., is another Carolina county to inaugurate an active plan of county health work in co-operation with the State Board of Health. Similar work is already in action in the counties of Wilson, Nash, Northampton, Pitt, Lenoir, Robeson, Davidson, Rowan and Forsyth. The expense of this work is shared by the International Health Board, the State Board and the county; the two former paying one-half, and the county the other half. The plan is working finely, and the results are hopeful in every county.

Dr. T. V. Goode, Jr.—Beginning the first of September Dr. T. V. Goode, Jr., who has been practicing medicine in Morganton, N. C., for several years, will become assistant to Dr. H. F. Long in his hospital work in Statesville.

Dr. Goode is a fine physician and he will be of great help to Dr. Long.

The Surgeon General's office at Washington, D. C., has revised the orders recently given to Maj. Chas. O'H. Laughinghouse, M. C. U. S. Army, which would have sent him from the Bast Hospital in San Antonio, Texas, back to Raleigh, N. C., in charge of the federal Anti-Venereal Disease campaign shortly to be inaugurated in North Carolina, and the latest advices are to the effect that this most favorably known Greenville, N. C., physician, and loveable man, is to go on "over-seas" duty as Commanding Officer of Base Hospital Unit No. 85, and he entrains for this service as Lt. Col. Laughinghouse. A merited honor. We congratulate the doctor and the service.

Dr. Henry E. McConnell of Chester, S. C., died at Johns Hopkins Hospital on August 18th. He was one of the most prominent physicians of Chester, S. C. He graduated in 1890 at the University of Maryland. For twenty-eight years he has been one of the leading members of the South Carolina Medical Society and has been an official member of the Tri-State Medical Association of the Carolinas and Virginia on several occasions. He was a man who had the respect and confidence not only of the laymen of his country but of the medical profession of his state and the adjoining states. The Medical Society of South Carolina has lost one of its best members.

Enlarging the Scope of Azalea War Hospital.—United States General Hospital No. 16, situated at Azalea in the mountains of North Carolina, near Asheville, was designed primarily for the care and treatment of tuberculous soldiers and sailors, but climatic conditions proving to be advantageous in gas cases, it has been decided to enlarge the scope of the institution to admit gassed soldiers. The hospital was opened on August 20th, with accommodations for one thousand patients, and orders have been given to add twenty-two buildings, which will provide for an additional five hundred patients. The cost to date is about \$1,500,000.

Airplane Ambulances—All flying fields in the United States are to be equipped with airplane ambulances to carry injured aviators quickly from the scene of an accident to a field hospital. A standard training plane is to be used for the ambulance, the rear cockpit being cleared and enlarged sufficiently to permit a combination stretcher seat to be placed in it. The injured person is placed with his head toward the pilot and rests easily. The first airplane ambulance is being operated successfully at Gerstner Field, Lake Charles, La.

Dr. W. A. McPhaul is to resume his practice at Rockingham, North Carolina, September 1. He has for the past year had charge of the health work of Robeson County and he has done good work. He has accomplished a great deal, and has made the health conditions of that county much better than they were before.

Dr. McPhaul is a very competent practitioner and possibly it is well enough for him to go back to Rockingham, and again enter into the general practice.

Asheville, N. C., has become a governmental hospital center. Keniworth Inn, a very beautiful place architecturally, has been taken over by the government for the use of a hospital. The government has made the grounds surrounding the premises much more beautiful than they already were. There are already 500 patients in this hospital. Possibly all of them have been brought from France disabled in one way or another. In very close proximity to this hospital is the new National Hospital, at Azalea with buildings and equipments in the most advanced ideas in hospital construction—buildings systematically located and spread over a great area.

Continued prosecutions of physicians, well known and less, in various sections of the state evidence the purport of the North Carolina State Board of Health to endeavor to discharge the duties delegated to it under a recent enactment of the legislature making the failure to report infectious diseases by physicians, a misdemeanor, punishable by fine or imprisonment as are other misdemeanors. Certainly it is only a question of "educating" profession and people up to the importance of making these reports, and we sincerely trust an early date will find every practicing physician of the state making his reports promptly according to the

statutes requirements. These repeated failures reflect on the integrity of our profession, and should not be condoned. Busy and overworked as many of our best doctors are now, a new function like this may be forgotten, but the habit of reporting his communicable diseases must be learned and practiced by all physicians who hope to retain either their own or the community respect.

Rowan and Lenoir counties, co-operating with the State Board of Health are among the two first North Carolina counties to establish free dental clinics for school children. This work is most important, and it is merely a question of time until many more of the 100 Carolina counties have followed this excellent example. Advanced public health work, of which this is noteworthy illustration, will, like other beneficent and helpful public functions, continue to go forward. The care of the children's health is as much a proper matter for the consideration of the authorities as their protection from the injurious effects of the distillation of alcohol, and every manifestation of advanced public sanitary endeavor is recorded with interest and passed along for the edification of others. *En passant*, it may be permissible to make the additional observation to the effect that this free dental clinic in these two counties is in large measure the direct result of an active physician in each of the two counties receiving the kindly co-operation of wide-awake publicists and intelligent dentists appreciative of an opportunity to help their communities.

Six large barracks, two stories in height, each containing four wards, making a total capacity of about 600 beds, have recently been added to the already elaborate hospital construction at the Base Hospital at Camp Greene, Charlotte, N. C., and a Training Department (Reconstruction) established by order of Surgeon General Gorgas. Major Joseph H. Way is chief of the service of the new department, which bids fair to prove of much value in sending the patients of the hospital back to duty in far more soldierly condition than formerly obtained when patients were returned to their camps directly from the sick wards. It also lends added emphasis to the oft repeated suggestion of this editor that with the splendidly manned and equipped base hospitals our army is now provided with, the average soldier of the great war is afforded facilities and opportunities

when ill that ordinarily would only be possible to the very rich. Pre-eminently is our liberal government, and a wise surgeon general, with a corps of talented surgeons in the service, giving the soldiers a professional service never equaled by any nation in previous wars, and surpassed, if equalled, by none in this conflict.

Gunshot Wounds of the Chest.—Dobson (British Medical Journal), speaks of some of the features in the surgical treatment of these wounds and emphasizes that the chief cause of failure is sepsis. The best preventive of sepsis is complete closure of the chest after very early and thorough surgical treatment for the purpose of mechanical cleansing. In spite of the adoption of this method some cases will yet become septic and the problem is then to deal with the infection. This must be undertaken at once and one must always be on the lookout to discover its occurrence as early as possible. When sepsis is discovered drainage of the chest cavity must be provided, which can be done either by resection of a short length of rib, or by resection of from four to five inches followed by opening of the chest for inspection and the removal of clots, foreign bodies, bone fragments, etc., and for the repair of damage to the lung or diaphragm. The latter is the better plan. But even such drainage is not sufficient in the majority of cases since the sepsis may not be overcome, or it may become chronic with the formation of dense masses of fibrin on the lung and parietal pleura and the patient will be left with a chronic empyema and a poorly expanded lung. The drainage should be supplemented by sterilization of the pleural cavity with some antiseptic, which is best accomplished by the insertion of a bent silver cannula through an interspace at the upper level of the cavity, where it is fixed to the skin by sutures. The original large incision is then tightly closed and sutured about a drainage tube placed in the dependent portion of the chest. This tube should be long enough to have its outer end dip below the surface of an antiseptic in a bottle. The chest cavity is then irrigated every two hours with eusol or other antiseptic solution. This method gives striking results in the control of the infection and the lung promptly expands leaving the patient with a sound organ.

Paroxysmal Tachycardia.—Price, in The London Lancet, uses this term to include the conditions in which there occurs a marked increase in the heart rate, which begins abruptly without apparent cause and ceases as abruptly after a variable period, and which is due to the assumption of an abnormal rhythm. The abnormal rhythm varies, and, while its point of origin is usually in the auricle, it may arise in the ventricle. Temporary auricular fibrillation and auricular flutter are the commonest causes. The duration of each attack and the frequency of the repetitions vary within very wide limits. The etiology of the condition is obscure, but it is commonest in males and during middle life. A rheumatic history and the presence of some valvular or myocardial involvement are very common, but the condition also often occurs in the absence of all such factors. The symptoms may vary all the way from none recognizable by the patient to those typical of decided cardiac failure. The pulse rate is generally above 140 and may rise to 300, though it usually lies between 150 and 190. The pulse is of smaller volume than normal and may be regular or absolutely irregular. Pulsus alternans is very common during the paroxysms. The blood pressure is usually diminished in the attack. The area of cardiac dullness may enlarge materially, but with the cessation of the attack, the heart rapidly regains its normal size. Polygraphic and electrocardiographic tracings show different features, depending upon the origin of the abnormal impulses. The diagnosis rests mainly upon the cardiac rate and the abrupt onset and disappearance of the attacks. It may be confused with the tachycardias of less severe grade associated with the normal rhythm, but is readily differentiated by the suddenness of onset and termination and by the discovery in graphic records of the abnormal rhythm. The prognosis for a particular paroxysm is generally good, but when the attack is very prolonged it should be more guarded and should be based upon the rate of the heart, the duration of the attack, and the degree of cardiac failure present. Prognosis as to the recurrence of paroxysms is impossible. The degree of integrity of the myocardium should be estimated between the attacks and if there is no material limitation of the field of cardiac response and the attacks are infrequent and of short duration the prognosis may be regarded as good.

BOOK NOTICES

Gynecology. By William P. Graves, M. D., Professor of Gynecology at Harvard Medical School. Second Edition, Thoroughly Revised. Octavo Volume of 883 pages with 490 original illustrations, 100 of them in colors. Philadelphia and London: W. B. Saunders Company. 1918. Cloth, \$7.75 Net.

An attempt has been made in this edition to bring the book as completely up to date as possible. Special attention has therefore been paid to those subjects in which the science of gynecology has made the greatest recent advances. Thus the section on the Relationship of Gynecology to the Internal Secretions has been almost entirely re-written and considerably amplified. Much new material has been added to the discussion of such subjects as ovarian organotherapy, ovarian transportation, the radium treatment of cancer, radium therapy in non-malignant gynecologic diseases, etc. A new section has been introduced dealing with the relationship of gynecology to the sex impulse, based chiefly on the now generally accepted theories of Feud regarding infant sexuality. In Part III, which deals exclusively with operative gynecology, a number of new operations have been described and illustrated, most of which have not appeared before in text-books. Many drawings have been added most of them illustrating new material. Some of them have been substituted for such illustrations in the first edition as seemed inadequate.

This edition as well as the first was a design both as a text-book and general reference book of Gynecology.

Part I deals with the physiology of the pelvic organs and with the latest methods of medical teachings which strive to impress on the student's mind the importance of the correlation of all the branches of medicine and surgery. It is hoped that this part of the work will prove of value both to the advanced special student and to the general practitioner who includes gynecologic patients in his clientele.

Part II is designed primarily for the undergraduate student who is taking his initial course in gynecology. It includes a description of those diseases which are essentially gynecologic, and is thus isolated in a somewhat compact form in order that the student may not be confronted by a too formidable array of facts in his collateral reading and in his prepa-

ration for his final examination in the subject. In order to accomplish this purpose certain encumbering details have been subordinated. Thus, in the description of each disease, the underlying pathologic processes are enumerated. Microscopic detail, however, can better be learned from pictures than from tedious description, for that reason drawing from microscopic sections illustrating the respective diseases are presented under each subject with full descriptive legends appended to them. In like manner the surgical principles involved in the treatment of the various diseases are recounted, but the technic of the operations and the pictures illustrating their performance, matters of secondary interest to the student of theory of gynecology, are reserved for a separate section.

Part III is devoted exclusively to the technic of gynecology and is written for the assistance of the advanced student and practitioner. Surgical devices for the cure of gynecologic diseases are innumerable, and it is impossible to include them all in a book of this scope. Only those operations which from the personal experience or judgment of the author seem best suited for the special requirements are presented. Many excellent procedures have, therefore, been unavoidably omitted.

The illustrations in this book number 490, 100 of them are in colors sufficiently illustrates the book. Most of them are original and prepared by experts. The volume is a large handsome one and no doubt it is the most up to date book on the subject that we now have.

Military Surgery of the Zone of the Advance by George De Tarnowsky, M. D., F. A. C. S., Surgeon to Cook County and Ravenwood Hospitals, Chicago; Major, M. C., U. S. R., American Expeditionary Force, France, 1917-1918. Illustrated, Lea & Febiger, Philadelphia, and New York, 1918. Price, \$1.50.

The object of this small volume is to give a resume of the primary treatment which in the light of painfully acquired experience on the Western Front during the past three years has proved most satisfactory in the opinion of those best qualified to judge. The little book is not intended for a text-book but has been written for the Medical Officer who, well grounded though he may be in the principles and practice of his art in the time of peace, finds himself now confronted with

an environment and a class of dramatic lesions foreign to him.

The volume is authorized by the secretary of war and Surgeon General Gorgas and should be in the hands of every medical officer in the army.

The Orthopedic Treatment of Gunshot Injuries, by Leo Mayer, M. D., instructor in Orthopedic Surgery, New York Postgraduate Medical School and Hospital, with an introduction by Col. E. G. Brackett, M. C. N. A. Director of Military Orthopedic Surgery 12mo of 250 pages, with 184 illustrations. Philadelphia and London: W. B. Saunders Company, 1918. Cloth \$2.50.

This book is not a treatise on orthopedic surgery. Its purpose is merely to emphasize certain principles and rules of guidance in the treatment of war injuries that have been of value. These principles may be termed orthopedic since they deal with the prevention and cure of deformity. The author says that it is foolish to haggle over the definition of orthopedic surgery or to try to define the limits between it and general surgery. Every military surgeon who is called upon to work in a war hospital must have orthopedic knowledge, and every orthopedic who has to treat gun-shot injuries must be a man of surgical attainments. The two specialties merge so intimately in all injuries of the extremities that the attempt to divorce them seemed to me artificial.

The writer does not refer to those injuries and deformities, such as sprains or dislocations, that are commonly seen in times of peace.

The author has classed the treatment of war wounds under two main groups: that given at the front, and that at the base hospital. In the field, the essential orthopedic problem is proper time to discontinue fixation of the injured part; in the base hospital, the proper time to continue fixations and restore motion.

One chapter of the book is devoted to artificial limbs. Too often the surgeon merely amputates and leaves all else to the brace maker. This is an incorrect practice. Even the best brace maker is, after all a technician, not a physician, and the fitting of the prosthesis does not correspond to the fitting of a suit, but to the finest adjustment of an orthopedic brace or flat-foot support. Innate mechanical sense and an accurate knowledge of the anatomy and physiology of the locomotor apparatus are essential factors in the

proper selection and application of an artificial limb. It is a task requiring all the skill that the physician can bring to his work, and frequently the problem is so difficult that it will baffle the best of us.

The writer also includes a chapter on the reconstruction of hospitals, this is a very valuable chapter.

The illustrations which are 184 are very fine and are very valuable and of interest to the physician, and especially to the surgeon. The book, as has been stated, is Orthopedic Surgery from a military standpoint.

Surgical Treatment. A Practical Treatise on the Therapy of Surgical Diseases for the use of Practitioners and Students of Surgery. By James Peter Warbasse, M. D., Formerly Attending Surgeon to the Methodist Episcopal Hospital, Brooklyn, New York. In three large octavo volumes, and separate Desk Index Volume. Volume I contains 947 pages with 699 illustrations. Philadelphia and London: W. B. Saunders Company. 1918. Per set (Three Volumes and the Index Volume): Cloth \$30.00 per set.

This work has been written in the interest of the surgical patient. The object has been to place in the hands of the surgeon the means of rendering help in every surgical condition under all circumstances. The aim has been to make this information easily accessible, and its application practical.

In most surgical diseases there is an ideal course of treatment which may be pursued and which represents the highest possibility of surgery. The author has endeavored to present this maximum of treatment. Every consideration has been given to direct the surgeon toward the ideal of perfection. In many instances its application requires skill and knowledge. The author is aware that circumstances may surround both the patient and the surgeon which make impossible the applying of the ideal measures, or render such attempts inexpedient. As an admission of these circumstances this work presents alternatives of the treatment which may be employed if the best thing possible cannot be done.

The fact that the author has had constantly in mind the interest of the patient as the object of supreme consideration, has compelled the concession that there are differences in surgical ability in the application of treatment. As the purpose of this work is not to glorify surgery, but to cure surgical patients, this

fact is frankly faced. In surgical diseases the mortality varies with the skill of the surgeon. The author has attempted to adapt to this fact the therapeutic advice which he gives. Thus, in many conditions, both operative and non-operative treatments are described; and in some diseases operative procedures are given which should be carried out by the experienced surgeon only, and methods are prescribed which are adapted to less experienced surgeons, but to which the experienced operator need not resort. All this is made necessary by the fact that in the treatment of surgical conditions there is not only a pathological hazard which is capable of modifying the outcome of the disease, but a surgical hazard as well. As the pathology of surgical diseases is a variable factor in every case, so also is the surgical treatment which the patient may command a variable factor.

These are not altogether unhappy circumstances. The average surgeon is capable of most efficient administration of the principles of treatment; and above and beyond the average is a great class of experts whose capabilities, in relieving suffering, prolonging life, and restoring to efficiency the damaged and diseased, are the marvel of this age, and represents the most beneficent expression of human handicraft.

The author hopes for the day when all surgeons who are trusted with the lives of human beings shall be so equipped that they can apply the ideal treatment in all cases which come to their hands, and when all patients with surgical diseases can command access to the environment which shall provide them the surest guarantee of recovery.

Surgery is an art based upon a complex of sciences. It is always in a developmental stage. Accordingly the author has endeavored to inspire the reader with the spirit of originality, to teach him not only how to do, but to suggest to him new lines of action, to set him thinking on the problem of treatment from his own standpoint. The hope of surgery, like all learning, lies in emancipation from the thrall of authority. In this work many expedients will be found to be briefly mentioned for the purpose of suggesting, in order that the reader may be impelled to originality. For this reason much of the normal anatomy of the parts given, and anatomical illustrations are freely employed.

Prophylaxis is regarded as a part of the treatment, that each is accorded as much attention as possible.

While large consideration has been given to new methods, nothing has been introduced for the sake of novelty. In the presence of the newer modes of treatment, the fact has not been lost sight of, that there are old methods and old agents of surgical therapy which have survived the trials of time and which are destined to outline the newer things which are now vaunted in their places.

It is certainly a great pleasure for the examiner to review a book of as much value as this one. It is one of the best that we have ever had the opportunity of looking over. Its 699 illustrations are of the very best, and appropriately illustrates the most modern methods in the handling of surgical cases. The volume is a very large and handsome one.

Principles and Practice of Infant Feeding by Julius H. Hess, M. D., U. S. Army, Active Service. Professor and head of the department of Pediatrics, University of Illinois College of Medicine; Chief of Pediatric Staff, Cook County, Michael Reese and Englewood Hospitals, Chicago. Illustrated. Philadelphia. F. A. Davis Company, Publishers. English Depot, Stanley Phillips, London. 1918. Price \$2.00.

It is the author's opinion that the best results obtained in the text of the *Principles and Practice of Infant Feeding* have been accomplished when the theory of feeding and the study of actual cases have been combined.

His object in publishing this volume is to place in the hands of teachers and students a manual on infant feeding to be used in preparation for clinical conferences. Whenever possible, the subject under discussion is illustrated in the class room by clinical cases and case records from the teacher's personal material.

While there are many excellent works covering this subject, this author has found most of them to be too voluminous to fulfill the needs, and has therefore attempted to present the subject in concise form in this small volume.

For the teaching of nurses he has those chapters which have to do with the nursing care of premature, healthy, and sick infants, the feeding of breast fed and artificially fed healthy babies, and the preparation of infants' foods and diets.

The book has some illustrations that are appropriate. The book is a small one containing 338 pages including the index. Dr. Hess is a well known teacher, he writes well and he has given the medical profession a good book.

The X-Ray in the War.

The remarkable growth of the science of medicine and surgery which has taken place since the beginning of the war has been made possible largely by the development of the X-Ray. In Baltimore this September a comprehensive X-Ray exhibit is to be held, which emphasizes the present active interest in this subject. In this connection a timely announcement is that of the issue of a translation of Barjon's important work on "Radio-Diagnosis of Pleuro-Pulmonary Affections." The work has been translated by Dr. J. A. Honeij of the School of Medicine, Yale University, and has already been adopted by the Medical Department of the U. S. Army in its X-Ray division.

The volume sets forth the interpretation of the shadows in various chest affections, emphasizing the scope of Roentgenological diagnosis and the importance of co-operation between the clinician and Roentgenologist and the value of supplementing with laboratory findings (serum reaction, tuberculin test, and Wassermann), the radioscopic findings.

Beginning with an exposition of the Radioscopic examination of the normal chest, the author proceeds with a discussion of pleurisy pneumothorax, foreign bodies in the bronchi, bronchial affections, tracheo-bronchial adenopathy, vascular processes, acute infectious pulmonary processes, chronic pulmonary processes, pulmonary tuberculosis and pulmonary tumors.

To be published early in September by Yale University Press. Price, 2.50.

The Antenatal Treatment of Congenital Syphilis With Salvarsan.—Findlay, in *The Glasgow Medical Journal*, reaches these conclusions:

1. Antenatal treatment with salvarsan, re-enforced by mercury, is superior to that with mercury alone.

2. By this method not only is a larger proportion of the children healthy—various statistics record 100 per cent. of healthy children—but it would seem that without further treatment the mother can continue to bear healthy infants.

3. It would seem advisable, in view of the above results, that all records of miscarriages and still-births should be kept, and those due to syphilis determined, when the syphilitic mothers could be treated with mercury and salvarsan, and the health of their future children almost certainly guaranteed.

Clinical Research and the Physiology of the Spinal Cord.—Head and Fernsides, in *The London Lancet*, say that the war has given many opportunities of studying these results of gross injuries of the spinal cord and cauda equina, and this study has firmly established the physiological principles resulting from the clinical work of Hughlings Jackson, the morphological investigations of Gaskell, and the laboratory experiments of Sherrington, Langley, Anderson, and others of the Cambridge school of physiologists. To an exposition of certain of these phenomena the greater portion of the last number of *Brain* (Vol. XL, Parts 2 and 3), edited by Dr. Henry Head, is devoted. The number opens with a review of the innervation of bladder and urethra, by Dr. E. G. Fearnside, giving a retrospect knowledge upon the involuntary nervous system and its relations with the lower portion of the spinal cord. Dr. Head and Captain G. Riddoch follow with a paper on the automatic bladder, excessive sweating, and some other reflex conditions, while in a third paper Captain Riddoch discusses the reflex functions of the completely divided cord in man and compares them with those of less severe lesions. All these authors agree with Sherrington that inhibition is one of the most fundamental and universally applicable of all physiological conceptions. In his masterly work on the integrative action of the nervous system Sherrington showed more than a decade ago that the basis for understanding the activities of the central nervous system must be sought in its integrating and adapting functions and the investigations now recorded by Head and Riddoch, and by Riddoch alone, serve to emphasize the importance of the mechanism which Sherrington has called postural in determining the type of response in a man whose spinal cord has been severely damaged. So long as this mechanism is intact, the impressions which constantly pass from the otic labyrinths and somatic muscles to the cerebellum, pons and mid-brain determine a state of tonic contraction in the group of anti-gravity muscles. When the damage is severe enough to destroy the postural mechanism the lower portion of the spinal cord is found to react to stimuli of whatever origin in a manner called mass-reflex by Head and Riddoch. Whenever the cord reacts in this massive manner three types of adaptive response only have been determined.

Miscellaneous.

EXAMINATIONS FOR MEDICAL LICENSE, CALIFORNIA.

Bacteriology and Pathology—Physicians and Surgeons.

1. Discuss the relationship between arterio-sclerosis and chronic interstitial nephritis.

2. Discuss hypostatic congestion of the lungs. Under what circumstances is it most likely to occur?

3. Explain why disorders of the urinary bladder are so common and so resistant to treatment in (a) elderly women (b) elderly men.

4. Describe the changes which take place during an attack of septic endocarditis and what valves are most likely to be involved and permanently impaired?

5. Describe the effects and changes which result (a) from an excess of secretion of the thyroid gland; (b) from a deficiency of the thyroid secretion.

6. What is the etiology of cholelithiasis and what pathologic changes may result in the gall-bladder and contiguous viscera?

7. What is the role of the colon bacillus in human pathology?

8. State the nature and the value of anti-streptococcic serum.

9. Describe the Widal reaction.

10. Describe the use of polyvalent vaccines.

11. Describe the technique of Grams staining method.

12. Name five bacteria which may cause acute pneumonia.

Pathology and Elementary Bacteriology.

1. Discuss the relationship between arterio-sclerosis and chronic interstitial nephritis.

2. Discuss hypostatic congestion of the lungs. Under what circumstances is it most likely to occur?

3. Explain why disorders of the urinary bladder are so common and so resistant to treatment in (a) elderly women; (b) in elderly men.

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6. What is the etiology of cholelithiasis and what pathologic changes may result

in the gall bladder and contiguous viscera?

7. Name three culture media. Describe the making of agar media.

8. Discuss the morphology of bacteria.

9. Name ten pathogenic bacteria.

10. Differentiate the characteristics of bacteria and protozoa.

11. Define the following terms: Pyogenic, Toxicogenic, Parasite, Saprophyte, Endogenous, Exogenous.

12. Name five diseases caused by protozoa.

Pathology and Bacteriology—Chiropodists.

1. What characteristic pathology is present in a case of weakness in the transverse arch?

2. What ligament is involved in flat-foot?

3. Give the pathology of hallux valgus.

4. What constitutional conditions may cause wounds in the skin of the feet to be difficult to heal?

5. Describe the development of callosities.

6. Give the pathology of paronychia.

7. What are the local signs of bacterial infection?

8. Discuss pus.

9. Why do ulcers form on the feet in some cases of locomotor ataxia?

10. What types of infection find entrance through puncture wounds in the skin?

11. What are the signs which would lead you to believe tuberculosis of the bony structure of the foot existed?

12. Describe bursitis and note where bursae may be located in the foot.

Obstetrics and Gynecology—Physicians and Surgeons.

1. Discuss birth paralysis.

2. Name eight causes of obstructed labor.

3. What are the external measurements of the normal pelvis? Use metric system.

4. (a) Name the external genital organs. (b) Name the internal genital organs. (c) Give origin and distribution of blood supply to the uterus.

5. Describe the operation for complete laceration of the perineum.

6. Describe the mechanism of labor in the L. O. A. position.

7. At what locations does pus in the pelvis point? Why is this the case?

8. Outline differential diagnosis between right-sided salpingitis, ectopic gestation and appendicitis.

9. Give symptoms and treatment of streptococcic endometritis.

10. A primipara three months pregnant has an ovarian cyst the size of an orange. What is the proper procedure?

11. Discuss the delivery of twins.

12. Describe the operation for Caesarean Section.

Obstetrics for Midwives.

(Answer Ten Questions)

1. What should a midwife carry in her obstetrical bag?

2. What is the normal duration of pregnancy? How is this calculated?

3. Name the conditions or diseases which might be mistaken for pregnancy.

4. When would you use a douche after labor?

5. Describe the care of the infant during the first twenty-four hours immediately following birth.

6. What are signs and symptoms of pregnancy?

7. How can you tell a breech presentation before birth? Describe the delivery in such a presentation.

8. When and how should antiseptics be used in obstetrics?

9. What may hemorrhage during gestation imply?

10. What would you do for a woman suffering with hemorrhage following child birth until a physician may be called?

11. When would you consider the use of forceps necessary?

12. A woman in the second stage of labor has convulsion. What would be your procedure in such a case?

Chemistry and Toxicology—Physicians and Surgeons.

(Answer Ten Questions Only)

1. Discuss the chemical changes that occur when a strong aqueous solution of Ag No-3 is applied to a mucus patch.

2. Discuss the properties of sulphur praeipitate.

3. Discuss chronic silver nitrate poisoning.

4. In what strength should aqueous solution of mercury binoide contain potassium iodide? Why?

5. Discuss the probable toxic agent responsible for the following symptoms: Nausea, frontal headache, coryza, salivation, bad taste, and a pustular eruption.

6. Discuss the probable toxic agent responsible for the following symptoms: Coryza, reddened conjunctiva, puffy eyelids, pigmentation, hyperkeratosis, cramps and diarrhea.

7. Which is a more dangerous poison, strychnine or carbolic acid? Why?

8. Discuss "lye" poisoning and the antidotes.

9. What is the result of heating a mixture of HNO-2 and KClO-3?

10. In what cases of poisoning should emetics not be given? Why?

11. Discuss atropine poisoning.

12. Describe sodium and discuss three of its salts.

Elementary Chemistry and Toxicology—Drugless Practitioners.

(Answer Ten Questions Only)

1. Describe briefly the element stibium.

2. Discuss briefly the haloid group.

3. Discuss "temporary hardness" and "permanent hardness" of water.

4. Define "eflorescence" and "deliquescence."

5. Describe briefly and discuss the "Bunsen burner."

6. What is CO-2 CO-3?

7. Discuss chronic silver nitrate poisoning.

8. Which is a more dangerous poison, strychnine or carbolic acid? Why?

9. Discuss "lye" poisoning and the antidotes.

10. In what cases of poisoning should emetics not be given? Why?

11. Discuss atropine poisoning.

12. Discuss the probable toxic agent responsible for the following symptoms: Nausea, frontal headache, coryza, salivation, bad taste, and a pustular eruption.

Surgery—Physicians and Surgeons.

(Answer Ten Questions Only)

1. Briefly discuss traumatic shock and in particular its diagnosis.

2. A woman sixty years of age as the result of an automobile accident, sustains a fracture of the left femur in the middle, compound fracture of the left humerus in the middle and a fracture of both bones of the left forearm. In addition to the above, she is in profound shock. Give management of case during the first week.

3. In the above case, at the end of the first week, the skin of the entire left forearm shows dry gangrene. Give management of entire case from end of first week to final conclusion.

4. Give technique of any approved operation for the cure of prolapsus uteri (incomplete) in a woman past the menopause.

5. What pathological conditions of the blood may modify or interfere with normal tissue repair?

6. Give the technique of an operation for decompression in the sub-temporal region.

7. Give management of abscess (unbroken) of vulvo-vaginal gland.

8. What symptoms, signs and laboratory findings determine the necessity for immediate operation for appendicitis.

9. Stricture of the oesophagus in any part; Etiology symptoms and differential diagnosis.

10. A patient presents himself with a hard indurated non-ulcerative tumor, the size of a pea, on the margin of the tongue. Give management of the case.

11. Give three accepted routes for drainage of Maxillary Sinus (Autrum of Highmore). Give technique of one operation.

12. Discuss treatment of uterine fibroid other than surgical.

Surgery—Chiropodists.

(Answer Ten Questions Only)

1. Define hammer toe. Give treatment.

2. What constitutional conditions may delay tissue repair?

3. What constitutional conditions in children may favor the development of flat foot?

4. Define perforating ulcer of a foot. Give etiology.

5. Discuss causes of edema of both feet.

6. Discuss causes of edema of one foot.

7. A person has a persistent discharge through a sinus opening upon the skin of the foot. Discuss etiology.

8. Give management of an ingrown nail (inflammatory of the big toe).

9. When should the treatment of talipes in an infant begin?

10. Give treatment of bursitis.

11. Discuss vaso-motor disturbances of the toes.

12. Discuss anesthesia of the skin of one or both feet.

Hygiene and Sanitation—Physicians and Surgeons

(Answer Ten Questions Only)

1. What is the Pignet test of physical efficiency?

2. Give an example of an efficient larvacide and describe how used.

3. What are carriers? What are missed cases? Explain their significance in epidemiology.

4. Discuss the comparative frequency of infection by direct contact; by fomites; by air.

5. Give in detail the most practical method of generating formaldehyde gas for terminal disinfection.

6. Explain methods of disinfecting bedding and clothing.

7. Mention two or more diseases carried by each of the following animals or insects: Dog, cat, cow, horse, hog, mosquito, lice, flea, rat and goat.

8. Amebic dysentery—give mode of transmission, incubation, carriers, prophylaxis.

9. Describe and make drawing of a suitable crematory for the disposal of garbage.

10. Describe a method of manure disposal by incineration and one other method.

11. Describe a latrine, tell how to care for same, and locate with reference to camp.

12. What floor space per man is essential in barracks?

Hygiene and Sanitation—Midwives.

(Answer Ten Questions Only)

1. What are the objects to be obtained by the sanitary control of milk in a community?

2. What are the harmful effects of illuminating gas?

3. What is the average quantity of water required by an adult in twenty-four hours. Name its more common impurities.

4. How much urine is excreted by adult in twenty-four hours, and how often should it be excreted?

5. How may flies produce disease?

6. Discuss the protection of food from contamination in the household.

7. Discuss the hygienic precautions in the care of an individual with an ordinary "cold."

8. What is the most hygienic method of cleaning floors?

9. Why should the house be protected from the entrance of mosquitos?

10. To what elements are due the evil effects of badly ventilated rooms?

11. How is the public health affected by stagnant water?

12. What diseases must be reported to Boards of Health and why?

Materia Medica, Therapeutics, Pharmacology and Prescription Writing—Physicians and Surgeons.

(Answer Ten Questions Only)

All Applicants Answer No. 7.

1. Describe an alkaloid. Name ten official alkaloids and their derivation.

2. Define antipyresis. Discuss briefly the principal therapeutic methods of its production, giving example of each method.

3. Describe pancreatin, giving its physiological action and therapeutical uses.

4. Discuss briefly phosphorus as a therapeutical agent.
5. Outline in detail, treatment of acne vulgaris.
6. Discuss briefly the uses of rectal feeding. Giving method in detail.
7. Write a prescription, without abbreviation, containing salicylic acid, tincture of aconite, infusion of digitalis, aromatic spirits of ammonia and a suitable vehicle. For what would it be useful as a whole and what action would you expect from each ingredient.
8. Discuss briefly strychnine as a therapeutical agent.
9. Patient sixty-five years old has blood pressure systolic 220, diastolic 135, chronic constipation, slight albuminuria with casts, dyspnea and vertigo. Outline treatment, giving doses and mode of administration of any drugs used. (What would the pulse pressure be in this case?)
10. What remedies are of value in a severe attack of angina pectoris? Give doses, mode of administration and action.
11. Define diuresis. Classify diuretics, giving action and example of each class.
12. Describe properties, action and uses of dionin.

Eclectic Materia Medica.

(Answer Ten Questions Only)

1. (a) Write a prescription using three drugs and a vehicle. (b) Describe the case for which you would prescribe it.
2. Give indications for three remedies used for pain in the chest.
3. Discuss collinsonia.
4. Discuss the treatment of Enterocolitis.
5. Give indications for Eupharbia and Euphrasia in mucous membrane diseases.
6. Name three bitter tonics and give their uses.
7. Give physiological action of Ergot, Macrotys and Viburnum.
8. Name four enzymes and give therapeutic uses.
9. Give the treatment for chronic interstitial nephritis.
10. Discuss the therapeutic value of blood transfusion.
11. Classify cathartics and give examples.
12. How would you prescribe for a patient with left hemiplegia and having a positive Wassermann reaction.

Chiropody and Therapeutics—Chiropodists.

(Answer Ten Questions Only)

1. Name twenty (20) ailments and diseases to which the foot is subject.

2. Discuss the essentials of a proper shoe for a normal foot.
3. Give the medicinal treatment of a vascular corn.
4. Give the local and constitutional treatment of mild eczema of feet.
5. Give the differential diagnosis and treatment of rheumatic gout.
6. Write a prescription for a suitable bunion lotion.
7. Describe the treatment of an ordinary blister.
8. Write a prescription for the relief of a neuralgic pain.
9. Why is nitrate of silver preferable to strong acids in treating hard vascular growths?
10. Describe the conditions in which you would advise the addition of salt or borax to a foot bath.
11. Discuss the essentials of a proper stocking for a normal foot.
12. How would you treat a severe case of chilblains?

Physiology—Physicians and Surgeons, (Answer Ten Questions Only)

1. May voluntary muscle contractions be both simple and tetanic? Explain each.
2. Explain the conversion of sugar brought by the blood to the muscular tissue into glycogen and its subsequent history. Discuss the nutrition of muscle.
3. Make a diagram and explain the direction of degeneration in a cut motor nerve root compared with a cut sensory nerve root.
4. Give in brief the physiology of the cerebral cortex.
5. Describe the gray rami communicantes and give their function.
6. Illustrate how the eye accommodates to objects at different distances.
7. Discuss the variations in blood pressure in the pulmonary circuit as compared with the systemic circuit.
8. Discuss the physiological properties of cardiac muscle.
9. Discuss the cerebro-spinal fluid, its formation, function. How influenced.
10. Discuss the innervation of the respiratory movements.
11. Discuss the digestion and absorption in the intestines.
12. Discuss the physiology of the pituitary body.

Physiology, Chemistry and Hygiene—Chiropodists.

(Answer Ten Questions Only)

1. What is the normal pulse rate and temperature of an adult?
2. Discuss the lymphatic circulation and its importance.

3. What is the general arrangement of grey and white matter in the brain?
4. Give the general properties of the blood.
5. Of what importance is urine analysis?
6. Outline a hygienic procedure in the protection and care of the normal foot.
7. What is the significance of sugar in the urine, and what precaution would it suggest to you?
8. Name three safe disinfectants and tell how to use them.
9. Give some of the differences between human inspired and expired air.
10. A person found unconscious in your waiting room, what different conditions might you suspect and some of the symptoms of each?
11. Describe the formation of blood clot.
12. What is the physiological importance of respiration?
4. What are the blood findings in primary pernicious anemia: typhoid fever, malaria?
5. What diseases of the lung might simulate tuberculosis, and why?
6. Discuss the diagnostic features in duodenal ulcer.
7. Briefly discuss conditions to be differentiated from acute pleurisy.
8. Give the differential diagnosis between acute infectious arthritis and that due to gonococcus infection.
9. How would you diagnose aneurysm of the aortic arch?
10. What conditions might be mistaken for acute alcoholism?
11. Briefly outline differential diagnosis between varioloid and varicella.
12. What are the symptoms of lead poisoning?

Dermatology and Syphilis—Chiropodists.

(Answer Ten Questions Only)

General Medicine—Physicians and Surgeons.

(Answer Ten Questions Only)

1. Discuss etiology, diagnosis and treatment of myocarditis.
2. What is Ludwig's angina? Briefly outline cause, diagnosis and treatment.
3. Differentiate uremic coma, alcoholic coma, cerebral hemorrhage with the treatment.
4. Discuss bronchiectasis, including etiology, diagnosis, prognosis and treatment.
5. Give differential points of renal calculus. Dietl's crises, pyelitis.
6. Outline venereal prophylaxis in a city.
7. Write your instructions for the management of lobar pneumonia in the case of a man 35 years old, pulse 120 and blood pressure 110 m. m.
8. Differentiate between Hodgkin's disease, tuberculous adenitis.
9. What is Parkinson's disease? Give etiology, symptoms, diagnosis and treatment.
10. Outline the treatment of acute alcoholism.
11. Discuss aortic stenosis.
12. What are the causes of neuritis? Briefly outline the treatment.
5. Discuss the etiology and treatment of excessive sweating of the feet.
3. What is eczema pedium? Eczema plantarum?
4. Outline the treatment of tenia circinata of the feet.
5. Discuss the treatment of fissures between the toes.
6. In what systemic conditions do we have chronic ulcers of the feet?
7. What is the treatment of abrasions due to improperly fitted shoes?
8. Give differential points of diagnosis between poison oak and chilblains.
9. What is the treatment of poison oak?
10. What is the treatment of syphilitic ulcer of the feet?
11. How would you diagnose onychia of staphylococcal origin?
12. How would you differentiate a syphilitic wart from an ordinary corn?

Anatomy and Histology—Physicians and Surgeons and Drugless.

(Answer Ten Questions Only)

General Diagnosis—Drugless.

(Answer Ten Questions Only)

1. What conditions are to be differentiated from Addison's disease?
2. Upon what would you make a diagnosis from congenital myxedema?
3. Briefly differentiate pain in the back due to acute nephritis; perinephritic abscess; uterine displacement; arthritis.
1. Describe briefly the fetal circulation.
2. Describe the thoracic aorta.
3. Describe the cephalic vein and its main branches.
4. Describe briefly the trigeminal nerve and give its main branches.
5. Describe the gross and histologic structure of the thyroid gland.
6. Give the origin, insertion, nerve and blood supply of the pectoralis major muscle.
7. Describe briefly the thymus gland.
8. Discuss the histology of the buccal

mucosa on the mid portion of the inner aspect of the lower lip.

9. Describe briefly the location and arrangement of the superficial lymph glands usually noticeably involved in lues.

10. Discuss briefly the chromaphil (or chromaffin) system.

11. Discuss the attachments, nerve supply and action of the sterno-cleido-mastoid muscle.

12. Describe the papillae of the tongue.

Anatomy and Histology—Chiropody.

(Answer Ten Questions Only)

1. Describe briefly the metatarsophalangeal articulations.

2. Describe the gross anatomy of the great toe.

3. Describe the histology of a toe nail.

4. Describe the blood supply of the skin of the toes.

5. Discuss the difference between the skin on the dorsum of the great toe and on the plantar aspect of the same.

6. Give the nerve supply to the skin of the foot.

7. Describe briefly the gross structure of the liver.

8. Describe briefly the ankle joint.

9. What lymph structures are most often involved in foot infections?

10. Describe the distribution of fat in the foot.

11. Name in proper order from above downward, the main parts of the alimentary tract.

12. Define (a) bone, (b) cartilage, (c) bursa, (d) periosteum.

Anatomy and Physiology—Midwives.

(Answer Ten Questions Only)

1. Give the normal pulse, respiration and temperature of an adult.

2. What is the normal pulse, respiration and temperature of an infant 24 hours old?

3. Discuss the function of the skin.

4. Discuss the function of the uterus.

5. What is the normal reaction of the urine? What amount secreted in 24 hours?

6. Discuss normal menstruation.

7. Describe the bony anatomy of the pelvis.

8. Describe the normal uterus.

9. What muscles help to form the floor of the pelvis?

10. Name the principal structures contained within the pelvis.

11. Describe the heart.

12. Give location of ovaries with relation to the uterus.

The Identification of the Meningococcus.—The Journal of the Royal Army Medical Corps for January and February contains three interesting communications dealing with the bacteriology of cerebro-spinal meningitis. 1. Captain W. J. Tulloch discusses the mechanism of the agglutination reaction and records some experiments bearing upon the question. In the second part of his paper he presents the results of agglutination and absorption tests which he performed upon a large number of presumptive meningococci, using the four-type agglutinating sera prepared upon the basis of Lieutenant-Colonel M. H. Gordon's classification.

He found that of these 66 per cent. could be unequivocally placed in one of the four groups by agglutination alone. A further 26 per cent. reacted with two sera of allied groups, but of these the majority could be placed definitely in a single group by the application of the absorption test. Twenty-three strains (6.5 per cent.) reacted with two or more sera without any group connection, and three of these were equally, though feebly, agglutinated by all four sera. By absorption tests, however, most of these could be placed in a definite group.

Group II. was found to be complex. Finally, 2 to 3 per cent. of strains failed to respond to any of the sera. Thus, some 98 per cent. of the cocci could be identified as meningococci by the quadruple agglutination test, and the majority of these were susceptible of classification into four fairly well defined, though inter-related groups by means of agglutination and absorption tests carried out with four sera selected by Colonel Gordon for the purpose.

Captain Tulloch's experiments are thus in full agreement with Colonel Gordon's previous work, and they afford evidence that the four-type system provides a trustworthy means of identification of the meningococcus as a whole. At the same time, they contain a strong suggestion that the division into four groups may not represent a complete statement of the true biological relationship of the various individuals of this species. The linking of the four groups into two pairs, the recent subdivision of Group II., and the existence of a number of strains which present individually almost every possible combination of reactions with the four sera, and thus bridge the gaps between the groups, all suggest the possibility that the differences between strains may, in fact, be of a quantitative rather than of a qualitative nature.

Much further investigation is required to show whether Colonel Gordon's classification is more than a stepping-stone on the path of knowledge. 2. Colonel Gordon gives an account of the steps of his researches on the meningococcus which led to the routine adoption by the Royal Army Medical Corps of the agglutination test for the identification of that organism, and to the establishment of the Central Cerebro-spinal Fever Laboratory, and he gives a full account of the methods in use there. He accepts Captain Tulloch's subdivision of Group II. into three distinct subgroups, but he does not consider that this upsets his main classification. He concludes with an inquiry into the reasons for the failure of other recent investigators to arrive at conclusions identical with his own. 3. Captain J. A. Glover gives an instructive description of the bacteriological aspect of a cerebro-spinal fever epidemic at "X" Depot in 1917. The relationship of the incidence of the disease to cold weather and overcrowding is clearly brought out, and a striking premonitory rise of the carrier-rate before the incidence of the first case is shown.

Of the 14 meningococcal strains isolated from actively infected men, 13 were identified with Gordon's Type II. and one with Type I. In an outbreak at the same depot in the previous year Type II. cocci had been isolated in every case, and the same type became predominant in the premonitory rise for the carrier-rate in the the present epidemic. Captain Glover ends with an account of a prophylactic scheme for 1918, which has been elaborated as the outcome of the experience and laborious investigations described in this paper.—The London Lancet.

The Treatment of Malaria.—Provisional instructions for the treatment of cases of malaria in the United Kingdom, are based upon work done in special malaria wards in England during the preceding five months by a number of specially qualified medical officers. No line of treatment yet tried (and more than 20 different lines have been tried) has sufficed to eradicate the infection entirely in more than a small percentage of cases, and no clear indication has yet been obtained that any one line of treatment is much better in this respect than any other.

A series of new instructions is given as regards dosage and other points. It has been decided that every case of malaria should be given sixty grains of quinin ev-

ery week until he has been free from malarial fever for at least sixty days. The dose may be administered intramuscularly or by the mouth in the form of sulphat, hydrochlorid, or bi-hydrochlorid, and it may be given at the rate of ten grains daily on six days in the week, or of fifteen grains daily on four days in the week, or of twenty grains on three days in the week, or of thirty grains on two days of the week, on consecutive days or not. The individual dose may be five grains, ten grains, or more, in solution, powder, or tablet, as convenient. It will thus be seen that it is not easy to stamp out the infection of malaria.

This is pretty much what the old clinicians found and taught. The only way to ensure success is to continue the drug over long periods, and the plan of giving sixty grains a week is useful, but it must be kept up for two months or for three if possible. The difficulty in dealing with large bodies of men is to be certain that they will go on taking the drug regularly; it is in private practice that the best results of quinin treatment are obtained. A word of warning may be given as regards pills and tablets; they may, especially if sugar-coated or old, pass quite unchanged, and in such a case the patient is not being treated at all. Fresh tabloids not sugar-coated seem to dissolve very well, however, but if symptoms of fever continue the possibility that they are not being dissolved should be borne in mind.

Epidemic Lethargic Encephalitis.—Netter (*Bulletin de l'Academie de Medecine*), is cognizant of seventy-one recent cases of this affection comprising thirty-seven in England and thirty-four in France, with fifteen personal cases. The victim is seized with fever, headache, and at times vomiting. Almost immediately there is marked lassitude and somnolence. At first the patient can be momentarily roused from his slumbers, but later the condition passes into an actual coma, occasionally interrupted by delirium and restlessness. Very characteristic are the ocular disturbances, usually bilaterally, consisting of ptosis, strabismus, immobility of the eyeball, or nystagmus. The intrinsic ocular muscles are less frequently involved, but paralysis of accommodation and a sluggish light reflex have been observed. The muscles innervated by the facial and those of the tongue, larynx, and extremities may participate in the paralysis. Tremor is not exceptional. The characteristic signs of meningitis, Kernig, rigidity, and pulse ir-

regularity are lacking or but slightly marked. The meningitic line is, on the other hand constant. Lumbar puncture yields a clear fluid under normal pressure, without excess of albumin and with a normal or but slightly augmented cell content. Of fifteen patients, seven died. Death or recovery may occur within a few days, but generally the disease persists through weeks or months. Lassitude and the eye disturbances continue for some time during convalescence. Postmortem examination shows but little macroscopically; microscopically there are chiefly perivascular infiltrations, most marked about the nuclei of the motor nerves of the eye, in the pons, medulla, and gray substance of the ventricular walls. The spinal cord is but little involved. While manifestly similar to epidemic poliomyelitis, lethargic encephalitis arises from a different cause. The symptoms cannot be held due to alimentary intoxication, e. g., botulism. The cases always occur singly, whereas in botulism several members of a family become victims. An identical epidemic occurred last year in Vienna. Wiesner thinks he has succeeded in transmitting the disease to the monkey by subdural inoculation and in isolating the causative germ as a Gram positive coccus. The disease must, like poliomyelitis, be propagated by germ carriers in good health or affected only with a slight catarrhal form. Probably injections of serum from convalescents, administered early, will here also prove of therapeutic service.

Case of Calculus Anuria Treated by Decapsulation of the Kidney and Drainage of the Renal Pelvis.—Bronnum (Edinburgh Medical Journal), gives an account of a patient that was wounded on July 18, 1916, by shrapnel in France, the wound being a through and through wound over the base of Scarpa's triangle of the right leg. The metal also went through the scrotum at the base of the penis without injuring the testicles, and entered the left thigh. On August 10, 1916, it was noted that some of the deep stitches had sloughed out from the urethral wound at the base of the penis, and that urine was passing from the wound if a catheter was not tied in. The left epididymis was adherent to the scrotal skin; there was a discharging sinus; and a probe passed from the wound on the right side of the base of the penis reached the bottom of the scrotum on the left side. At that period the patient passed

between 30 and 50 ounces of urine in 24 hours. Temperature normal.

Towards the end of September there was fever and vomiting, accompanied by some "patchy consolidation of the right middle and lower lobes." The temperature fluctuated for about three weeks and albumin was noted in the urine (previous examination of the urine had shown normal urine). The physical signs cleared up after a few days, but "bilious vomiting" continued daily and the temperature continued to fluctuate. The amount of urine passed at that time was not registered.

After a few days of normal temperature and apparent well being the temperature again began to fluctuate and examination of the urine showed the presence of pus therein.

All during December the temperature was normal, but the amount of urine went down to about 20 ounces in 24 hours and it was noted that "stones had been passed per urethram."

In January the temperature went up again and the patient complained of headache and pain across the upper part of the abdomen. About 20 ounces of urine were passed in 24 hours and the patient became somewhat drowsy.

On April 3 the right kidney was removed. Small calculi were found in the pelvis and the kidney itself was "a bag of pus."

After a period of steady temperature the patient again became ill, complaining of pain over the left kidney, and passing pus in the urine. A specimen removed by catheter gave a growth of bacillus coli.

Two days after admission absolute suppression of urine took place and, on catheterization about 1 ounce of almost pure pus was obtained. The patient was treated with hot packs, diuretics and diaphoretics. But all efforts to induce the kidney to excrete proved fruitless. As the patient became drowsy and his condition was desperate the kidney was exposed by lumbar incision. The kidney was decapsulated and incision made into the pelvis through the parenchyma. Yellow pus and urine escaped. A finger was passed into the pelvis and the calyces explored. In one calyx a small rough calculus, about the size of a bean, was felt, but it could not be extracted without further mutilation of the kidney. Two drains were inserted into the pelvis through the kidney substance, ensol gauze was packed around the drains and the wound partly sutured. Large amount of pus came away through the drains, but the patient

did not do well and a second operation was necessary. For a short time after the second operation the patient seemed to be getting on favorably, but this proved to be only temporary, and the patient died fifteen days after the second operation.

Blindness in India.—At a meeting of what is called "The Humanitarian Corps of the College of Ambulance, London" (an institution we confess never to have heard of before), there was a paper read by Mr. C. G. Henderson, I. C. S., on Blindness in India, in which he sketched a plan by which blindness could be reduced in India.

It is therefore worth while examining the last Census Report as to the extent to which this terrible infirmity prevails in India. In his paper Mr. Henderson testified to the great work done by Civil Surgeons in India in reducing the sum-total of blindness, especially that due to trachoma and to cataract.

If we turn to page 352 (etc.) of Sir Edward Gait's Census Report (India 1911, vol. I, part 1) we find some pages devoted to this important subject.

Blindness is an infirmity easy to diagnose and not likely to be concealed, consequently if it is insisted that blindness of both eyes and not merely dim-sightedness in one or both eyes is meant, it is not likely that many mistakes have been made by the census enumerators.

We, therefore, may accept the figure of the Census Report that "14 persons in every 10,000 of the population" are blind. In America and in various European countries the figure is given as about 8 or 9 (per 10,000), so it is clear that there is a marked prevalence of blindness in India, though Russia with its figure of 19 per 10,000 is in a far worse state.

As regards prevalence and causation, the first point to be noted is that its prevalence varies inversely with the rainfall. It is most common in Punjab, United Provinces, and Baluchistan, where the climate is dry, and dust and glare are excessive, and least prevalent in green and damp Assam, Bengal, and Madras.

This, however, is not the only factor; in colder climates like the hill tracts of Assam or Burma, where houses are built of stone or mud, badly ventilated and with no chimneys, much damage is done to people's eyes by the smoke from domestic fires. A certain degree of blindness is due to small-pox, but there has been found no correspondence between

the prevalence of small-pox and blindness in any part of India.

The domestic causation of blindness is also emphasized by the greater prevalence of the infirmity among women (138 males to 145 females), this is no doubt due to the fact that women spend more time in the smoky atmosphere of their houses, and that they are generally most reluctant to go to hospital for the treatment of their eye troubles.

Blindness is, of course, more common among the aged, the proportion of persons afflicted at the age of 60 being six times as great as it is among those of ages 15 up to 60 years.

The facts as disclosed by the Census Reports are certainly unsatisfactory; there is, however, one consoling fact, and that is the recorded diminution in the period between the two Census Reports of 1891 and 1911. The falling off was from 17 to 14 per 10,000 of the population, and this is ascribed to the smaller number of small-pox cases of blindness, and the increasing readiness of the people to seek hospital relief. Take cataract alone, in the decade ending 1900, there were 154,560 operations of the removal of cataractous lens; in the next ten years this big figure had increased to 174,108 cases.

In the discussion in London, Sir Havelock Charles advocated the extension of ophthalmic traveling dispensaries, and with such views we have every sympathy. The extension of our hospitals and dispensaries, and the growing faith in them and the education of the people in the value of early treatment, these with generally improved sanitation and improved housing conditions must necessarily have a good effect in reducing the incidence of the terrible calamity of blindness.—Indian Medical Gazette.

Rectal Anesthesia.—Goheen (Indian Medical Gazette), reports 82 cases anesthetized by the use of ether given by the rectum.

Forty of these patients suffered from tuberculosis, mostly glands of the neck, the majority requiring long operations for a thorough eradication of the disease. In some the lungs were affected. It was desirable to irritate the latter as little as possible, and it was distinctly observed that with rectal anesthesia bronchial irritation was less than with ether inhalation—by the open method as Goheen is accustomed to use it.

Ether, being less toxic than chloroform, is considered the anesthetic of choice for

these lung operations in debilitated patients.

It is found that about as much, perhaps a trifle less, ether is used when given per rectum as by inhalation, in long operations.

Postoperative vomiting was somewhat less frequent after use of the rectal method.

In these two series, totaling 82 operations, five deaths are recorded, or about 6 per cent. This is a much higher mortality than is shown in Goheen's records of the past two years for the total of 872 major operations (of which 347 were abdominal sections), the percentage of fatalities being 3.4. However, it is difficult to prove that the method of anesthesia is to blame for the difference. Prolonged operations about the head and neck, especially in patients weakened by chronic disease, must be considered somewhat worse risk than the average for major surgery. If the two cases in the first series be excluded, the death-rate in the 82 tabulated operations stands at 3.75 per cent.

The Method of Giving Ether by Rectum.

I. Weigh the patient.

II. Clear the bowels by cathartics and a saline enema.

III. Give, hypodermically, morphine grain 1-6 and atropine grain 1-150, one-half to one hour before operation.

IV. (Instead of III.) Induce primary anesthesia by chloroform inhalation and proceed at once with:

V. (1) R

Ether, 3 parts.

Olive oil, 1 part.

Mix, and let there be a quantity sufficient to give one ounce of the mixture for every 20 pounds weight of the patient.

Shake thoroughly in a stoppered bottle for one minute; then introduce into rectum through a small oiled catheter, having a funnel at the rate of 1 ounce per minute (patient's hips being preferably slightly raised) until entire quantity is given. Withdraw the catheter forthwith and maintain pressure on the anus with a firmly rolled bandage.

(2) For delayed anesthesia, say more than twenty minutes (when procedure III is used instead of IV), place a wet towel over face, or give more ether or chloroform by inhalation.

(3) For prolonged or deepening anesthesia after some time it will generally be necessary to give another ounce or so of the mixture by rectum, or to give a little ether or chloroform by inhalation.

(4) For overdose, lower the hips (if

raised) and draw off the mixture from the rectum with a rectal tube having several openings. This mixture may be saved for reintroduction in the same patient when the danger has passed.

(5) For cessation of anesthesia, proceed as in (4). In addition it may be best to wash out the lower bowel with one pint of soapy water.

Note.—The ether-oil mixture is not irritating, if given as stated. In fact it can be given to a patient in his or her bed by the nurse (if procedure III has been followed), and the patient becomes anesthetized without realizing that he or she is being given anesthetic. The method is thus well-nigh ideal for cases with hyperthyroidism, or other nervous patients. Except in such cases, Goheen prefers to begin anesthesia by chloroform inhalation (procedure IV), as this saves time—an important factor not infrequently.

Rectal ether has proved, in the 82 operations for which Goheen has used it, a safe and satisfactory method of general anesthesia, when intestinal lesion cases are excluded.

It is not suitable for laparotomies.

It is particularly convenient for surgery of the mouth, head, neck, or other regions above the diaphragm.

It is economical for operations that can be performed in less than thirty minutes.

It is almost ideal for nervous thyroid cases, or others who dread inhalation anesthesia.

There is less hyperemia about the head and neck, consequently less hemorrhage with this method.

It is less irritating to the lungs than is ether given by the open method, probably because it reaches the lungs in a naturally warmed and dilute condition.

There is less postoperative nausea and vomiting than with inhalation anesthesia.

Treatment of Oral Sepsis.—Fischer, in *The British Medical Journal*, says that in his opinion the original focus of severe types of oral sepsis is at the margin of the gums and teeth. Mastication forces food in between the teeth, and between the gums and teeth. This food sets up a certain amount of irritation, and forms a suitable nidus for various organisms. The first problem is how to prevent food lodging in these sites; this can be solved only by efficient cleansing with a brush, which must be fairly stiff, and used after each meal in conjunction with a powder. Fischer has found the following excellent: *Magnesii carbonas ponderosus*, 3 parts; *sulphur sublimat*, *sapo Castil*, aa 1

part; ol. menth. pip., q. s.

If gingivitis or pyorrhea has already commenced, the affected area should be firmly swabbed with a small tightly rolled pledget of wool held in a pincette and dipped in liq. cresol saponis or any of its substitutes, taking care to remove the excess before using. A tumbler of warm water and spittoon should be ready to use immediately after. A thymol mouthwash should be prescribed.

This method, he ventures to predict, will come as a revelation to all who have labored for weeks and months with iodine, hydrogen peroxide, and other methods, as it is so rapid in its effects; only in very advanced cases has Fischer found it necessary to apply the liq. cresol saponis twice, and rarely three times, at two-day intervals.

In severe cases of pyorrhea there is a dirty grayish-brown sloughing appearance at the gum margins, often jumping to the adjacent buccal mucous membrane; all these sites should be firmly swabbed, although the surfaces bleed in the process.

A similar condition is sometimes seen on the surface of the tonsils, and should be treated in a similar way; a sponge on a holder may be necessary here, dipped in sterile water or any mild antiseptic, if the person is too young or unable from any other reason to gargle. In septic conditions of tonsils and the back of the throat the ordinary chlorine gargle or swab should be applied every three hours after the initial swab with liq. cresol saponis.

A very septic socket may develop after extraction of a tooth, causing days and sometimes weeks of pain; if a swab soaked in liq. cresol saponis is firmly pushed into the socket, the relief is almost instantaneous, and a second swabbing after twenty-four or forty-eight hours is rarely necessary.

The pain inflicted in swabbing gums is practically negligible, but may be rather severe in the case of sockets.

Prophylactic Triple Inoculation Against the Typhoid Group.—Walker, in *The London Lancet*, records the results of a series of carefully conducted observations made to determine the most favorable conditions for the production of immunity by the injection of a combined vaccine for typhoid and the paratyphoids. As a result of these observations he concludes that the combined vaccine should contain 1,000 million of each of the three organisms per mil and that the initial

dose should be half a mil and the second one mil. The agglutinin curve for each of these three organisms varies in different persons, both in the maximum, reached and the precise day of its attainment, but in general the height is reached from the first dose between the sixteenth and twenty-fourth day after injection. Following this the titres fall rapidly at first and slowly later. The administration of the second dose on the sixth or seventh days after the first checks the rise of the agglutinin titres and delays it somewhat; if given between the thirteenth and sixteenth days, or before the time of maximum, the effect is but a slight nick in the rise of the titres, or a brief plateau; if the second dose be given later than the twenty-fourth day the fall in the titre is temporarily arrested after a few days and then slowed down materially. The chief effect of the second dose, given within a few days of the maximum of the titre produced by the first, is to delay the fall in agglutinin titre and prolong the period of effective immunity. It seems probable that it would be best to postpone the administration of the second dose to the eighteenth to twentieth day after the first.

Intravenous Injection in Wound Shock—Bayliss (*British Medical Journal*), deals only with the condition of secondary shock and points out that the most general and obvious manifestations of the condition are associated with the low blood pressure. The exemia hypothesis, i. e., the accumulation and stasis of blood in capillary areas, seems best to explain the condition, the resulting symptoms being due to an insufficient blood supply as a result of low pressure and decreased blood volume. The chief means of therapeutic attack must include the elevation of the blood pressure and restoration of adequate blood volume. Simple elevation of pressure in the face of continued reduced blood volume has proved of little avail. The most logical method to suggest itself is the transfusion of blood, but this has many disadvantages, especially near the firing line, the chief one being the difficulty of obtaining sufficient suitable donors. The use of whole blood is also not followed by better results than is that of other solutions. Various saline solutions have been suggested and tried, but none of these meets the conditions because they all are too transitory in their effects due to too low viscosity or the absence of a colloid with an osmotic pressure. The one solution which has the

proper theoretical characteristics and which gives the desired results clinically is a six per cent. solution of gum acacia in nine tenths per cent. sodium chloride solution. The acacia contains sufficient calcium and potassium salts to render their addition unnecessary. The acacia has the advantages of being colloidal, of having a sufficient osmotic pressure to prevent the solution's prompt passage from the vessels into the tissues, of providing the requisite viscosity, of being nonprotein, of being cheap and easily secured, and of being readily sterilized by boiling. Though acidosis may be present in secondary wound shock, it is not a factor of serious importance, and alkaline injections are not necessary.

Dilatation of the Duodenum.—Pauchet (Paris Medical), notes that the surgeon operating in the upper abdomen frequently finds both the duodenum and the last loop of the ileum greatly dilated. Below the ileal dilatation and a few centimetres from the cecum a kink is found. A bismuth meal and the use of the X-ray soon reveal the duodenal enlargement, while the ileal disturbance is shown by markedly delayed evacuation of the bismuth from the terminal portion of this section of the bowel. As Lane has pointed out the sequence of events in such cases is visceroptosis, formation of defensive ligaments, and finally an ileal kink. The mesentery attempting to hold up the ileum reacts upon the duodenum above and narrows it at one point by traction on the mesenteric artery; or, the duodenum may be blocked through accentuation of the duodenojejunal angle. Patients with chronic duodenal occlusion suffer from habitual indigestion with nausea and vomiting, the latter often bilious. The stomach artificially emptied at night is found again filled with bile the next morning. There is frequently vague pain in the right side, sometimes relieved by ingestion of food as in duodenal ulcer. Constipation is the rule. The stools are light in color. Persistent headache and general lassitude of toxic origin are complained of. The abdominal wall is flaccid, the X-rays show sagging of the stomach and colon, and examination of the blood and urine often reveals acidosis due to progressive inanition. The medical treatment consists in recumbency after meals, a supporting belt before rising, abdominal gymnastic exercises, and measures to promote fat deposition. Such treatment failing, ileosigmoidostomy, with or without right colectomy, is indi-

cated. Acute gastroduodenal dilatation is a condition occurring after operations and manifested in vomiting of black material caustic to the oral mucosa; marked abdominal distention from gastric and duodenal dilatation, with thready pulse and collapse. These patients have been suffering preoperatively from chronic duodenal occlusion, with beginning acidosis; swallowing of saliva to neutralize the gastric contents resulted in aerophagia, followed by acute gaseous distention and mechanical obstruction of the duodenum. The treatment comprises gastric lavage, or better, permanent gastric siphonage; the ventral, or better, the genupectoral position; and continuous proctoclysis with sugar and alkaline solution to supply pabulum and overcome the acidosis.

Tachycardia in the Enteric and Other Fevers.—Marris, in *The London Lancet*, based an extensive observation of the cardiac condition in the enteric and other fevers and during convalescence from such fevers, classifies the tachycardias encountered into those due to cardiac lesions; those of postural or atonic origin; and those arising from general instability of the vasomotor nervous system. In 650 cases of the enteric infections there were seventy-five cases of tachycardia, of which five were due to cardiac affection, forty to vasomotor instability, and ten to postural causes. The others showed features of both of the latter groups. Tachycardias observed in other febrile conditions fell into the same groups, in most of the fatal cases being of cardiac origin, while the majority of the nonfatal cases were of vasomotor origin. The diseases in the fatal cases were chiefly diphtheria, meningitis, miliary tuberculosis, and scarlet fever. In the nonfatal cases the diseases were chiefly diphtheria, scarlet fever, influenza, trench fever, and obscure pyrexias. In the tachycardia of cardiac disease the rapid pulse was present in sleep as well as during waking, and the ability to hold the breath was much impaired. In the vasomotor tachycardia the increased rate occurred only when the patient was awake and was not influenced by postural changes, and the ability to hold the breath was normal. In that due to atony the increased rate occurred only with the patient in the upright position and was relieved by the application of a snug abdominal binder. The cardiac tachycardias were treated as heart cases; those of vasomotor origin occasionally responded to the use of stro-

phanthin, but usually failed to do so, while they were benefited by graduated exercise, massage, and the administration of bromides. The atonic variety were helped by the use of tight abdominal binders, massage, and the administration of tonics.

Simplified Method of Blood Transfusion.—Rieux (Paris Medical), uses two trocar needles—the one plain, for insertion in the recipient's vein; the other with an additional inlet forming an acute angle with the narrow shaft of the needle, for the donor. A graduated receptacle holding about 500 mls and containing an isotonic citrate mixture at 88 degrees C. is connected by tubing with the oblique inlet of the donor's needle. Another receptacle with an opening at the top and two lateral openings, the one above for entrance of the citrate mixture and the other below, for the exit of the mixture, is connected at the upper lateral opening with the longitudinal inlet of the donor's needle, and by the lower lateral opening with the needle leading to the recipient's vein. The citrate solution mixes with the donor's blood as the latter leaves the vein, and consists of sodium citrate, either six or eight grams; sodium chloride, 7.5 or seven grams, in 1,000 mls of distilled water. In an injection of one litre of blood and citrate mixture in equal parts the patient receives, according to the citrate solution used, but three or four grams of sodium citrate. The elevation of the citrate receptacle is so regulated beforehand that the citrate solution and blood mix in approximately equal amounts. The needle for the recipient's vein may be inserted either before or after the blood has been obtained from the donor. The amount of blood injected is known by noting the difference between the entire quantity of mixture introduced and the amount of citrate solution that has left the upper receptacle. Obtaining the donor's blood by mere puncture into the vein facilitates the procedure as a whole and permits of obtaining 250 to 300 grams of blood—an amount removable with impunity—from each of two or more donors, if necessary. The blood meets the citrate and becomes incoagulable immediately upon leaving the donor's vein.

Does the Irritant Action of Emetine Hydrochloride Extend to the Kidneys?—La Paz and Montengro, in *The Philippine Journal of Science*, have studied this question, using dogs. They state that the

examination of the urine does not give conclusive evidence that emetine has induced inflammation of the kidneys. The appearance of albumin in the urine of dog 1 on the second day of emetine injection and in the urine of dog 3 on the fifth injection cannot be due to inflammatory changes; otherwise it should have appeared on the succeeding days and its quantity should have been increased by the subsequent injections of emetine. They cannot explain the significance of the short hyaline casts that appeared in the urine of dogs 1, 2, and 3. They also observed them in the urine of three saline controls. However, the fact that their appearance was not accompanied by albumin except in one instance (that is, on the fifth injection in dog 3) diminishes their importance as a sign of inflammatory lesion of the kidneys. This is confirmed by the examination of the sections of the kidneys. When examined histologically, the kidneys of dog 1 showed very slight acute parenchymatous degeneration; the kidneys of dog 2 showed congestion and its results, hemorrhages between the layers of the capsules, and slight, if any, degeneration of the tubular epithelium; the kidneys of dog 3, congestion and slight degeneration of the tubular epithelium only; and the kidneys of dog 4, very little recognizable pathological change on account of extensive post-mortem alteration. The absence of the inflammation that emetine readily induces in the eye, respiratory passages, alimentary canal, and subcutaneous tissue indicates that it is not eliminated by the kidneys, or if it is, that it passes through them in very high dilution.

Rectal Anesthesia.—Goheen, in *The Indian Medical Gazette*, says that rectal ether has proved with him in eighty-two cases a safe and satisfactory method of general anesthesia when intestinal lesion cases are excluded. It is not suitable for laparotomies. It is particularly convenient for surgery of the mouth, head, neck, and other regions above the diaphragm. It is not economical for operations that can be performed in less than thirty minutes, but almost ideal for nervous thyroid cases, or others who dread inhalation anesthesia. There is less hyperemia about the head and neck, and consequently less hemorrhage in operations in this region. It is less irritating to the lungs than ether given by the open method, probably because it reaches the lungs in a naturally warmed and dilute condition. The postoperative nausea and vomiting is

also less than with inhalation anesthesia. His method of administration is as follows: Weigh the patient; clear the bowels by cathartics and a saline enema; give hypodermically morphine grain one-sixth and atropine grain 1-150 one half to one hour before operation, or, instead of this, induce primary anesthesia by chloroform inhalation and proceed at once with a mixture of three parts of ether to one part of olive oil. This mixture is shaken thoroughly for one minute and then one ounce of the mixture to every twenty pounds of the weight of the patient is introduced into the rectum through a catheter at the rate of one ounce per minute. The patient's hips should be slightly raised while this is being done. To prolong or deepen the anesthesia a little more may be drawn off through a rectal tube, and to cause the anesthesia to cease, draw off all the mixture and wash out the lower bowel with one pint of soapy water.

Coxa Vara and Obesity.—Kirmisson (Bulletin de l'Academie de Medicine), includes, under the term coxa vara, two abnormalities, viz., a special morbid posture of the lower extremity characterized by a combination of external rotation with adduction, and a sagging of the femoral neck, which forms a right or acute angle with the shaft of the femur. Thus defined, coxa vara occurs under two different conditions: in young children, in whom it is generally accompanied by the other customary signs of rickets, and in adolescence, when, as in the case of the skeletal deformities met with at that time, it usually occurs alone. As regards the cause of the adolescent type of coxa vara, the author was struck some years ago by the observation of a family in which three children had coxa vara and were all obese. The mother likewise suffered from obesity. Numerous cases since met with have convinced him of a close relationship between obesity and not alone coxa vara, but also epiphyseal separation at the upper end of the femur and the local disturbance which leads to "fruste" coxalgia. The three latter conditions, moreover, are themselves allied, sometimes occurring in association in several members of the same family. Thyroid insufficiency is probably the cause of the obesity underlying these conditions. The thyroid gland seemed hypoplastic in the author's cases, and the pasty features and facial puffiness suggested myxedema. X-ray examinations for pituitary enlargement in two cases were negative. In a male patient aged sixteen genitals seemed underdevel-

oped, and in a girl of twelve, 1.53 meters tall and weighing 61 kilograms, menstruation had not yet appeared. Treatment by mechanical extension and thyroid gland internally yielded some benefit.

Acidemia in the Treatment of Gas Gangrene.—Wright and Fleming, in The London Lancet, record their observations, which show that a reduction in alkalinity of the tissues or blood greatly favors the multiplication of the several gas-forming bacilli, and further, that the growth of these organisms tends to produce an acidemia and a local reduction of alkalinity. Their predilection for dead or badly injured muscle is also due to the fact that such muscle has a reduced alkalinity. These observations lead the authors to recommend the practice of intravenous infusions of five-per-cent sodium bicarbonate solution in amounts of 500 mls at a time. This should be followed by an after-treatment with the lactate of soda by mouth to keep the urine alkaline. The lactate of soda is chosen because it is well borne by the stomach and promptly converted into the carbonate after absorption. It cannot be used at the outset owing to the presence of nausea and vomiting. When operation is necessary it should be the anesthetic, preferably the former. Finally, the local wound or the amputation stump should be treated with five-per-cent solution of sodium chloride to promote the exudation of lymph and thus to raise the local alkalinity. The results of this plan of treatment have been good, and it is suggested that it may even forestall the development of acidemia if the infusions of alkali be started very early. Frequently, inoperable cases are rendered operable by the intravenous infusions.

Stages of Urea Retention in Bright's Disease.—Weill, and Vallery-Radot (Presse Medical), state that while the manifestations of chloride retention in nephritis are curable and can be prevented by a salt free diet, disturbances due to urea retention are always dangerous. Blood urea estimations permit of prognosticating with a degree of precision rare in clinical medicine the subsequent duration of the disease. Patients whose serum shows persistently at least one gram of urea per litre almost always succumb within two years. Where, however, the urea vacillates between 0.5 and one gram, the indications are less definite. Sometimes, after remaining at this level for a time, the blood urea returns to

within normal limits; or, it may remain at the same level for years, without aggravation of the patient's general condition; or, again, it soon rises further, exceeding one gram. As a rule this period of initial or warning azotemia is of long duration. The original renal disturbance, however, dates farther back and can be detected before any urea retention has supervened, by means of the Ambard constant. Among seventy-two nephritics with blood urea below 0.5 gram, only seventeen had a normal Ambard constant. The heightened constant appears even in cases of simple albuminuria, of pure hypertension, or of albuminuria with chloride retention but with or without hypertension. In many Bright's cases elevation of the constant appears as a temporary disturbance; a persistently high constant may, however, occur in the absence of urea retention. This first stage of the disease, before urea retention begins, sometimes lasts a number of years. In the third stage, the urea exceeding one gram, Ambard's constant is of no further clinical value; the urea estimations should, however, be repeated several times to make sure that a high reading was not due to a temporary acute exacerbation. Above two grams of urea per litre, death is near.

The Chemotherapeutic Treatment of Gonorrhea.—McDonagh, in *The London Practitioner*, notes that the mention of gonorrhea causes a look of despair on the face of the medical man nowadays, whilst twenty or thirty years ago it was considered no worse than a cold in the head. This difference of outlook he attributes to the overtreatment now imposed. Prompt treatment is strongly advised. The solution of choice is permanganate of potassium 1:8000, gradually increasing the strength, and in addition subcutaneous injections are given of an emulsion of colloidal antimony if the discharge has not ceased on the fourth day, sodium bicarbonate 60 grains a day being administered by the mouth. Colloidal manganese was also injected. As to the results in the hospital of gonorrheal patients is forty-nine days. About 15 relapsed in the same hospital. Probably not 5 per cent. of the cases discharged are really cured. About 50 per cent. develop prostatitis, 7 per cent. vesiculitis, 15 per cent. epididymitis, and 2 per cent. arthritis.

In the 300 new cases treated by colloidal injections, 28 per cent. developed prostatitis, 1 per cent. vesiculitis, 4 per cent. epididymitis, and there was no case

of arthritis. Those cases did best which had an anterior urethritis only on admission, and if such cases are always treated carefully and individually, there is no reason why the posterior part of the urethra should become involved or a complication develop.

Having treated 100 cases with the concentrated manganese, the following figures show the results obtained. The stay in hospital averaged twelve days; 9 per cent. developed prostatitis, 2 per cent. epididymitis, while there were no cases of vesiculitis or arthritis.

The Stethoscope as an Aid in the Early Diagnosis of Gas Gangrene.—Maybury, in *The Journal of the Royal Army Medical Corps*, states that many wounds exhibit a varying degree of swelling of the surrounding parts within twenty-four hours of their infliction. In a certain proportion of these cases, especially if the wounds are not drained, the swelling increases and the part becomes infected with gaseous cellulitis, which is recognized clinically by well-known signs, e. g., resonant muscle, characteristic odor, etc. In the remainder, gaseous cellulitis does not develop and the swelling gradually subsides under ordinary treatment.

Crepitations can be detected by auscultation with a stethoscope of the portion of a limb infected with gaseous cellulitis. While this sign is present in a well-established case with "drummy muscles," its importance lies in the fact that it is present in a number of cases before the muscles become resonant to percussion, and it is therefore useful in distinguishing between the first group of cases mentioned above and the second.

The sign is produced by placing the stethoscope on the swollen part and then alternately increasing and decreasing the amount of pressure to the chest-piece; this produces the necessary movement of the underlying muscle. Another method is to press the swollen part in several places with the finger, while the chest-piece is firmly placed on the center of the swollen area.

The crepitations thus produced vary in intensity and in number. In the early cases they resemble those heard in the lungs affected with chronic tubercle and may be few in number; in the later cases they are much more numerous. In cases in which subcutaneous gas is present, they are much louder and are similar to those heard in ordinary subcutaneous surgical emphysema.

The crepitations may disappear tempo-

rarily from a given area, if that area has been manipulated for a short time.

Care should be taken to avoid mistaking the sounds produced by gas from those due to the presence of blood-clot and from those due to friction between the skin or hair and the stethoscope.

The detection of these audible crepitations may be of use in two ways: (1) In cases in which they are present the wound should be more freely opened up than would otherwise be done, and if necessary secondary incisions with free transverse division of the deep fascia should be made into the muscle over which the crepitations have been heard. (2) During active operations, when owing to the large number of cases admitted to the clearing stations it is impossible to drain all wounds involving muscular tissue, cases in which crepitations are present should have preference as regards operation over those in which they are absent.

Rubber Grafts.—Delbet (Presse Medicale), reports concerning four cases—two under the care of Veau and one each, of Huguier and Basset. Two of the grafts were used for muscular hernias of the thigh; in the other two cases the object was to liberate muscles or tendons caught in scar tissue. In one of the hernia cases a sheet of rubber was fastened by interrupted catgut sutures to the margins of the opening in the fascia, which was of about the size of a silver dollar. The muscle hernia did not recur, though when the fascia lata was under tension, resistance to the pressure was less at the site of the graft than in the surrounding area. In the other hernia case, a better method of fixation was employed, the margins of the sheet of rubber being cut into short strips which, after the rubber had been slipped between the muscle and the aponeurosis, were worked into the latter. A perfect result was obtained. The third case had broad scars on the forearm, adhering to the flexor muscles and preventing motion at the wrist. There were also signs of injury of the ulnar nerve. At the operation the whole of the adherent scar was removed, the nerve sutured, the muscles drawn apart, and the destroyed fascia replaced by a sheet of rubber four centimetres broad and ten centimetres long. Two months later one-half the normal motility at the wrist had been recovered, but the ulnar paralysis persisted. In the fourth case the flexor tendons of the index and middle fingers, adherent to callus on the second metacar-

pal bone, were liberated and a sheath of thin rubber made for each tendon. The result was excellent. Rubber is thus shown to be useful both as a means sustaining tissues and to permit of the sliding of tissues one upon the other.

Nervous Women.

From puberty through the menopause we meet with many patients suffering, as Godell has aptly described, as the "intangible, impounderable, invisible pelvic pains of neurotic women," and these cases most frequently respond to the sedative and antispasmodic actions of Hayden's Viburnum Compound.

The nervous symptoms of early pregnancy or the threatened miscarriage or abortion are often prevented by the early use of Hayden's Viburnum Compound. While the nervous strain due to social functions, the exertions of dancing, or the decrees of fashion leading up to hysteria are usually based upon some pelvic trouble, here a sedative is indicated, as a rule an effectual treatment is found in giving Hayden's Viburnum Compound.

Prof. John B. Shoemaker in his "Materia Medica and Therapeutics," Professor Ellingwood in his text-book, "Materia Medica and Therapeutics," "The National Standard Dispensatory," and King's "American Dispensatory," all recommend the use of Viburnum Opulus in hysteria; while Professor Wilcox in his text-book of "Materia Medica and Pharmacy" and Culbreth in his "Materia Medica and Pharmacy" speak highly of Viburnum Opulus in the nervous diseases of pregnancy.

Dysmenorrhea and Menorrhagia.

Dysmenorrhea and menorrhagia are symptoms appearing in many diseases or may be due to malpositions of the uterus and as a symptom demands treatment as one treats the symptoms of an irregular or weak heart, whatever may be the cause, with digitalis or with strychnine.

Viburnum Opulus and Dioscorea Villosa are drugs which have distinct antispasmodic and sedative action upon the uterine muscles and at the same time are acknowledged uterine tonics.

Hence when the symptoms of dysmenorrhea and menorrhagia, unless due to some mechanical cause, occur, the first thought should be Hayden's Viburnum Compound, which may be followed by such local or operative measures as the case demands. For the celebrated J. Marion Sims said, "For severe dysmenorrhea I have found Hayden's Viburnum

Compound of great service." Dr. F. H. Davenport in his text-book, "Diseases of Women," referring to dysmenorrhea, says, "Hayden's Viburnum Compound has seemed to be the most effectual remedy of this class." Again, Prof. D. M. R. Culbreth, in his text-book, "Manual of Materia Medica and Pharmacology," refers to Hayden's Viburnum Compound in dysmenorrhea, menorrhagia, after pains and ovarian irritation.

Mode of Action of Lactic Bacillus Therapy.—Bondouy (Paris Medical), note that the partisans of lactic ferment treatment maintain an ability on the part of the ferment to liberate acids by its action on sugars, especially lactose, in the alimentary tract and thereby to modify the intestinal flora and impede the pullulation of proteolytic putrefactive organisms. Recent observers, however, have failed to note an acidification of the feces, even after ingestion of large quantities of lactic cultures or of yoghoort. In a case treated radically for cancer of the transverse colon and having a cecal artificial anus, the authors were able to investigate the subject. In control experiments neither yoghoort alone nor yoghoort with an extra quantity of milk of fifty grams of lactose, led to acidification of the feces. The same condition prevailed in the patient with the artificial anus. Simultaneous examination for a week, however, of the cecal and anal stools in this patient supplied the key to the problem. With yoghoort alone—even 750 mils—the cecal stools remained neutral, like the anal stools, but upon addition of fifty grams of lactose, the cecal stools became very decidedly acid, while the anal stools were still neutral. This persisted even when the yoghoort was reduced to 250 mils; but the acidity disappeared upon discontinuance of the lactose. Tests for lactic acid and lactose were positive in the cecal stools but negative in the anal stools. These findings show that to induce acidification at all, lactose must be given along with the yoghoort. Lactose actually reaches the cecum, in which the acidifying action occurs. Farther on in the colon, however, the lactose and lactic acid are absorbed and the stools return to their neutral reaction. Lactose is the only sugar which yoghoort will ferment. With any of the lactic ferments one should combine lactose, fifty grams a day, to be taken in solution in several doses between meals. Saccharose and proteoses were also found in the cecum; passage of food from

pylorus to cecum took but a few minutes, but from cecum to rectum, over twenty-four hours. Failure of acidification of the anal stools after ingestion of lactic ferment does not prove that reduction of proteolytic organisms is not taking place in the small intestine and cecum. As for the question whether the antiproteolytic action exerted is actually powerful enough to induce an autopurification of the intestine by modifying the flora, this remains to be definitely settled.

Intolerance to Cod Liver Oil.

The average cod liver oil preparation soon becomes irksome to women and children, or to any patient convalescing from a long illness—and yet it is in just such instances that cod liver oil serves to happiest advantage.

It was to obviate this draw-back of cod liver oil that brought about the preparation of Cord. Ext. Ol. Morrhuae Comp. (Hagee), and it was the recognition of the fact that Cord. Ext. Ol. Morrhuae Comp. (Hagee) offers everything to the patient that the plain oil does except a gastric burden, that has given it such wide popularity with the profession.

Selection of Abdominal Cases for Operation.—Richards (Brit. Med. Jour.), concludes from a review of 200 operations for wounds of the abdomen: 1. The decision as to whether a man wounded in the abdomen should be operated on or not is usually based on the time which has elapsed since the injury and the rate and character of the pulse. 2. Of the patients who survive operation performed in the first twelve hours a high proportion will have had their lives saved by it, and this is true in a lesser degree of those operated on in the second twelve hours. After this time most of those who survive operation are those whose injuries were not originally fatal. 3. Men with a pulse of 120 or over have less than half the chance of survival of men with a lower pulse. 4. Recently wounded men, with a rapid pulse, should nevertheless be operated on, provided that their condition is as good as it is ever likely to be, that they have a reasonable prospect of surviving the actual operation, and that the time taken does not prevent the proper treatment of other wounded. 5. Every wound of the abdominal wall, however slight, should be explored, whether signs of internal injury are present or not. If it is found to be penetrating, the abdomen should be opened. 6. The necessity for deciding between the claims of ab-

dominal and other cases can be best avoided by good theatre organization, the provision of two tables for each surgeon, and by not allowing slow operators to do abdominal work. If these measures are insufficient the decision should be left in the hands of the surgeon in charge of the pre-operation ward.

Sterilization of Skin and Other Surfaces.—Bonney and Browning (British Medical Journal), point out that all of the commonly used antiseptics are more or less powerfully irritant, so that their prolonged application for the purpose of destroying the organisms lying deep beneath the epithelium, in the sweat and sebaceous glands and hair follicles, is not possible. They are, further, all made inactive upon contact with blood and other albuminous material, so that their action ceases promptly upon incision of the skin. As a result of bacteriological experimentation and clinical tests in actual use for two and a half years, the authors find that a mixture of methyl violet and pure brilliant green is nonirritant, penetrates deeply, destroys all the organisms even in the depths of the skin and its glands, and makes the skin treated actively antiseptic. The solution contains one per cent. of a mixture of equal parts of the two dyes, dissolved in equal parts of alcohol and water. The dyes are first dissolved in the alcohol and the water then added. The skin of the operation area is painted with this solution six hours before operation and a compress soaked in the solution is applied and covered with waterproof batiste. No further preparation is done, the dressing being removed on the operating table. The same solution can be used for sterilization of the vagina and rectum by packing these cavities with gauze saturated with it. The perineum can also be sterilized by the application of compresses wet with the solution. In all cases the application should be continued for six hours prior to operation. Cultures of the skin from various regions after such preparation have proved wholly sterile in all but exceptional instances, when a single colony, or perhaps two or three colonies has grown.

Conditions Simulating Disease which May Be Produced by Teething.—James Burnet (British Journal of Children's Diseases), records three cases and states that teething can give rise to serious besides being a definite exciting cause of such conditions as diarrhea, eczema,

bronchial catarrh, convulsions, screaming fits and strabismus. Facial palsy and chorea may be caused by dentition. When infants present obscure symptoms the following should be investigated: urine, rectum, throat and mouth.

The Hemagglutinin Reaction.—Bond (British Medical Journal), reaches the following conclusions:

In a considerable number of cases, under conditions which require further analysis, but which seem to be associated with recovery from albuminuria in the nephritis cases, and successful resistance to general infection in the wound cases, a definite alteration has been found to occur in the blood serum, for the most part in the direction of an increased hemagglutinin content. The bearing of this fact on the problem of blood transfusion now becomes apparent. If the blood serum of a recipient may be at one time compatible with the red cells of a given donor, and at another time may agglutinate those cells, the donor's serum may also, as the result of recovery from infection or other illness, change in the same way.

Cases have been recorded by Major Robertson, Major Lee, and others in which transfusion of blood from the same donor to the same recipient had no harmful effects on one occasion, but was followed by death on a second. The author suggests that changes in the hemagglutinin, and probably in the hemolysis, content of the blood serum of the recipient or donor, or both, occurred in the interval between the two transfusions, which were responsible for the unfortunate result.

Case of Hematidrosis.—Scott (British Medical Journal), saw a girl eleven years old who had begun to have peculiar attacks of sweating four months previously without apparent cause. The attacks were usually preceded by a distinct aura in the form of a sick feeling so that the child knew when the sweats were coming on and what the type was going to be. The sweating was confined to the forehead and consisted of clear white fluid, white froth, or bright pink fluid. The phenomenon occurred in attacks which were repeated at intervals of a minute or two up to ten minutes or even an hour. The attacks were much more frequent during the waking hours than when she was asleep, but they also occurred at the latter time, when they always waked her. The fluid always contained both red and white cells. There was no discovera-

ble cause for the sweating in the child's family or personal history except the occurrence of a severe fright which she experienced a week before their onset.

Effect of Convention Currents on Agglutination.—Topley and Platts, in *The London Lancet*, present the results of a number of experiments which show that the occurrence of active convection currents in the tubes increases the rapidity of agglutination materially, especially in the case of bacterial suspensions which agglutinate rather poorly. The presence of the convection currents does not seem to alter the maximum titre of the serum to be tested. The quality of the agglutination is also altered favorably, the floculi being large and very readily seen with the naked eye. Often the titre obtained after two hours of incubation with convection currents is not equalled in twenty-four hours with the same serum and suspension in the absence of such currents. The production of convection currents is best secured by immersion of the agglutination tubes in the waterbath at 55 deg. C. to such a point that the water rises to only 1-6 to 1-4 the height of the column of fluid to be tested. The adoption of such a technic gives uniform results and materially shortens the required time of incubation.

Early Vaccination of the Newborn.—Wurtz (*Bulletin de l'Academie de Medicine*), states that the French laws recommend waiting three months before vaccinating a child at the breast. Pinard, however, has long been a partisan of immediate vaccination, deeming it better to take the risk of nonsuccess than to delay the procedure. Recently an unvaccinated child two months old succumbed to smallpox in Paris. Tissier in 1904 published a paper based on statistical data from which he concluded that the chances of nonsuccess at birth are greater than two or three weeks later; inherited immunity rapidly becomes attenuated at the expiration of this period. Yet Tissier, in common with other accoucheurs of the Paris hospitals, himself practises and advocates early vaccination of the new born. Exception is made in cases of congenital debility, skin affections, etc. Bonnaire, having witnessed a case of death from hemorrhage after vaccination of a newborn child, waits until the eighth or tenth day. Wurtz advises that the official recommendation as to time of vaccination be altered to read "all chil-

dren over ten days and less than three months old."

Ligation Treatment of Causalgia.—Lortat-Jacob and Hallez (*Presse Medicale*), report the case of a wounded man with associated paralysis of the right medium and ulnar nerves and marked and persistent sensory disturbance of causalgic type in the median distribution. A vascular injury had necessitated ligation of the brachial artery. Galvanism, the ethyl chloride spray, and salicylic ionization having all proven useless in relieving the pain, surgical treatment was decided upon. The medium was freed for a distance of five centimeters and a moderately tight ligature of No. 1 catgut placed about the nerve in its infraxillary portion. On the first day the pain was markedly diminished and on the second disappeared completely. Evidently such a ligature is capable of inhibiting or eliminating for a time the perineural sympathetic irritability and the congestion of the trunk of the nerve without injuring the nerve fibres themselves which are undergoing centrifugal repair. The procedure is simpler and more easily carried out than denudation and excision of the periarterial nervous plexuses, and deserves recognition as a radical means of relief for severe causalgia in certain cases of median paralysis. It can be accomplished under brief general anesthesia with ethyl chloride.

Intravenous Calomel Injections in Syphilis.—Chevallier (*Presse Medicale*), had previously shown that intravenous injections of insoluble powders is entirely feasible. In the case of calomel, however, such a procedure had seemed impracticable owing to its high molecular weight, which prevented its remaining in suspension in water. With the assistance of Georget and Chazal, the author has secured a stable suspension of calomel and used it with success both experimentally and clinically. In man he injects 0.01 to 0.02 gram, according to the age and strength of the patient, every five to eight days. The dose is gradually increased to 0.05 gram, and the injections administered in series of ten. Over 150 cases have already been treated, with notably favorable results. Selective susceptibility to the injections does not occur. A Herxheimer reaction may, however, be induced. The measure gives incomparable results in healing hard chancre. Skin lesions may appear very soon if the patient dispenses with treatment

when all his symptoms have cleared up under the injections. Erosive mucous patches are often rebellious to calomel, and in such instances novarsenobenzol is to be preferred. Simultaneous injections of novarsenobenzol and of calomel are well borne and active, and sometimes constitute the method of choice.

Jaundice.—The jaundice caused by catarrhal inflammation of the biliary passages rapidly responds to the cholagogue effect of Chionia. One to two teaspoonfuls three times a day will relieve the local congestion, increase the flow of bile and promote hepatic elimination.

Cerebral Edema.—Rawling (British Medical Journal), has seen a considerable number of cases presenting evidences of cerebral edema as the result of heat stroke, cerebral malaria, shell shock, etc., and has come to the belief that the condition is due in part to a damage to the veins of the brain and its membranes which reduces their capacity for absorbing the excess of exuded fluid. Lumbar puncture sometimes temporarily reduces the symptoms of the increased intracranial pressure, but at other times it proves of no value, or even yields no excess of fluid, probably due to the blocking of the communication between the brain and cord. The most satisfactory form of treatment has been the performance of a subtemporal decompression with incision crucially through the dura and followed by replacement of the temporal muscle. This permits the escape of the fluid into tissues whence it can readily be absorbed and after some time the normal functions of the cerebral sinuses and veins are restored. In practically all of the cases in which this operation has been performed by the author the results have been very good and quite permanent. The operation is not dangerous and is recommended for all severe cases in which improvement has not taken place after three months of medical treatment.

Phagocytic Response to Bacteria in Clean Wounds.—Wilson (British Medical Journal), conducted a number of experiments upon the phagocytic response of clean wounds in man to the application of cultures of colon bacilli or killed cultures of staphylococci or *Bacillus welchii*. In every case the application was followed by the prompt outpouring of active phagocytes which completely removed the organisms within twenty-four hours.

This response began as soon as five minutes after the application, but the simultaneous application of a 1:1,000 solution of brilliant green arrested the phagocytosis for some time, although it began later and proceeded normally.

Hepatic Congestion.—Congestion of the liver due to over eating can be quickly corrected by regulating the diet and giving Chionia, a teaspoonful every 4 hours. The indigestion, headache and other symptoms promptly disappear.

Heat Stroke and Malignant Malaria.—Milner (British Medical Journal), says that it is admitted that a close relation exists between heat stroke and malignant malaria, but that he is convinced that heat stroke does not exist as a clinical entity, being only a symptom, on a hot day, of malignant tertian malaria. The author supports this opinion, which he admits to be radical, by the results of his observations during the recent hot periods in Mesopotamia. From a routine examination of the blood of the cases admitted as heat stroke during the second hot spell it was found that a very large proportion of the cases showed the presence of malignant tertian malaria. The routine administration of a dose of eight or nine grains of the bihydrochloride of quinine intramuscularly even before the results of the blood examination had been reported reduced the mortality from over twenty-five per cent. to less than twelve per cent. It is suggested that infection with the malignant tertian malaria parasite produces an intoxication of the heat regulatory centre, upsetting its functions so that the temperature of the body tends to approach that of the surrounding atmosphere, hence the occurrence of so called heat stroke in these infected patients.

Bone Grafting.—Keith, in The London Lancet, says that if we sum up in the light of our present knowledge the conditions which determine the successful grafting of bones or of bone-fragment, we must place first—asepsis. Grafts answer best which are taken from the patient's own body; the closer the genetic relationship of the graft-host, the better is the graft likely to answer. The graft-host should be young, and those grafts do best which contain all three elements of bone—bone, periosteum, and medullary tissue. The graft-bed must be free from blood-clot. Washing in normal saline solution damages the vitality of a graft. A graft must be placed so that

contact is effected with adjacent fragments; the contact must be firm and so designed that the graft becomes early subjected to the mechanical stresses and strains of the part.

"Paraldehyd" possesses many of the good without the evil qualities of chloral. Used in Insomnia resulting from various causes. The objectionable taste of the chemical is, to a great extent, disguised in Robinson's Elixir Paraldehyd (see page 14 this issue) which is an elegant preparation.

Polyarthrits During Arsenobenzol Treatment.—Chabanier and Bleton (*Presse Medicale*), state that during the treatment of syphilis with the arsenobenzols, especially the neo variety, there appears rather frequently a general polyarthralgia, localized mainly around the joints, and occurring under the same circumstances as icterus and neurorecurrences. The pains last three or four weeks, and are apparently not influenced by the treatment, which can be resumed as soon as they have disappeared. Since such pains are sometimes noticed in non-syphilitic individuals subjected to arsenobenzol therapy, they are probably to be ascribed rather to a direct action of the drug than to a localization of the syphilitic infection about the joints under the influence of the treatment.

Kronig's Latest Results from Cancer Operations.—According to one of Kronig's assistants many cases of cancer treated by the knife at the Freiburg Gynecological Clinic have been followed up for 10 years with the discovery that only 5.2 per cent. of the women had survived that period. Hence Kronig is henceforth for X-ray therapy.—*Correspondenz-Blatt für Schweizer Aerzte*.

Heliotherapy.—Artant (*Presse Medicale*), asserts that sunlight treatment can be satisfactory applied anywhere provided lenses be used to augment the curative energy of the solar rays. Despite the prevailing opinion to the contrary, the rays of the warm portion of the spectrum are those which exert a therapeutic action. The author obtained constantly good results from heliotherapy in lymph node inflammations—even with suppuration and sinus formation—and was often successful in cases of tuberculous osteitis and orchitis. In Pott's disease heliotherapy is especially effectual in allaying pain. It will even influence considerably

the pains of mammary or uterine cancer. It yields good results in certain forms of eczema, and markedly allays itching in this disease.

Chloroform Deaths.—Auvray in 3500 surgical operations performed during the present war, reports 3 anesthetic deaths. After the last of these he changed to ether, the inconveniences of which are negligible in comparison with the stigma of causing death.—*La Presse Medicale*.

Treatment of Placenta Previa.—Hellier (*British Med. Jour.*) in treatment of placenta previa discussed the field of Cesarean section. The writer believed that the majority of obstetricians agree that when a patient has had one well-marked hemorrhage that the pregnancy should be terminated without delay. If the patient was not in labor and uninfected and the services of a competent obstetric surgeon could be procured there was much in favor of Cesarean section. The doctor described the case of a patient who had a severe hemorrhage who was treated expectantly, and who died during a second hemorrhage while an attempt was made to perform version. In two other cases he had operated so soon as hemorrhage occurred, patients should be immediately sent to a hospital so soon as hemorrhage developed. This did not mean that all should be treated by section, for many could be delivered in other ways, but the facilities of a hospital are necessary in the treatment of these cases.

In malarial conditions a diuretic is not indicated as often as the symptoms suggest, as one always has to contend with a torpid liver that is throwing a part of its work on the kidneys, meaning double duty for the latter.

In such cases the rational treatment is to use some agent which will stimulate all the excretory organs, dividing the duty of each and causing thorough elimination.

Tongaline either alone or in combination with other agents, as indicated, will invariably expel the malarial and other poisons promptly and thoroughly.

Insomnia.—From the standpoint of safety and efficiency of action there is no hypnotic or soporific more serviceable than Peacock's Bromides. Two or four teaspoonfuls given an hour or so before retiring usually produces a natural, restful sleep of six to eight hours duration from which the patient awakens refreshed and invigorated.

The Importance of Regulating Fat-Intake in Diabetes Mellitus.—P. J. Cammidge points out that in the treatment of diabetes mellitus control of the fat allowance is quite as important as regulation of the carbohydrate and protein intakes. Bloor was the first to carry out a systematic study of the fat content of the blood of diabetes. He found that out of thirty-eight cases a lipid value of the blood in excess of the normal average was present in thirty-six, and in but three cases it exceeded the highest limit met with in healthy persons. A marked increase, up to 100 per cent. or more of normal values, was found in all severe cases, but as a rule the more severe and long standing the diabetic condition the more marked was the abnormality in the blood lipoids. The evidence at present available suggests that the excessive lipid value of the blood originates in the fat of the food, and is due to the partial failure of the mechanism for dealing with fat arising from the essential nature of the diabetic state. Bloor found that there was no definite relation between high blood lipoids and the occurrence of acetone bodies in the urine. Moreover, that diabetic lipemia is not due to change in the reaction of the blood is indicated by the fact that the greatest possible reduction in its carbon dioxide capacity by acid poisoning produces no characteristic change in that direction. It would therefore seem that the tendency to imperfect utilization of fat in diabetes is not dependent upon any other feature of the disease, but is a primary phenomenon of the condition. Cammidge points out that it may be taken as a general working rule that fat unbalanced by an adequate available supply of other food is poison to the diabetic, and that the craving of bread and other starchy foods is an expression of a natural want that should be dealt with by restoring the balance in the diet by reducing the fat rather than by increasing the carbohydrate, as is usually taught. He further points out that from experiments conducted by Allen, it seems reasonable to conclude that the hyperglycemia and glycosuria following excessive feeding with fat are due to a failure of metabolism consequent on the gain in weight above what the defective assimilative functions are able to cope with, and that any attempt to induce a high level of nutrition with fat results in an aggravation of the diabetic condition similar to that which follows a like attempt with carbohydrate or protein, although its effects are slower and more

insidious. These observations make it clear that in addition to rendering the urine sugar-free by limiting the carbohydrate intake or adjusting the protein allowance, it is also necessary to ascertain the optimum amount of fat which will meet the needs of patients, prevent acidosis, and avoid the onset of glycosuria. Cammidge has obtained satisfactory results by the fasting treatment; in some cases in which sugar returned he found that an excess of protein was being taken and in others that the fat content of the diet was the difficulty, and when this was adjusted to the patient's metabolic powers the glycosuria promptly ceased and did not return. He states that in treatment the aim must be a steady weight which can be maintained without overtaxing the patient's defective metabolic powers. Gain in weight must be sacrificed to well-being and satisfaction of the appetite to length of days. Individualization of the diet, in which the allowance of carbohydrate, protein, and fat is regulated by the tolerance of the patient for each and by his powers of dealing with the diet as a whole, is the line along which the treatment of diabetes is developing.—British Medical Journal.

Blue Pigment in Blood Serum.—Pattein (*Bulletin de l'Academie de Medecine*), in the course of studies on tests for bile pigments in human blood serum, found a blue pigment not yet described. It can be demonstrated by diluting 100 mils of serum to one litre with water, adding acetic acid to litmus, allowing the precipitate formed to settle, and after a few hours separating it by centrifugation. A bluish gray material is often formed under these conditions which seems unevenly distributed in the sediment and is soluble only in 0.6 per cent. sodium chloride solution. The blue solution thus obtained is decolorized by acidification, even with acetic acid, as well as by trichloroacetic acid and by sodium carbonate. It is partly precipitated by lead subacetate. The blue material gives none of the reactions of indigotin and is not a copper compound but contains traces of iron. It can be obtained from serums containing neither indoxyl nor bile pigments. It is precipitated as a blue body by alcohol, and evidently consists of a blue pigment combined with a globulin, just as hemoglobin consists of hematin combined with globin. Often the blue compound was present only in traces. It was found most abundantly and frequently in serums of cases of eclampsia.

The Intravenous Injection of Arsenobenzol in Concentrated Solution.—Faïre and Marsia (*Presse Medical*), say that they have given 3,150 injections of neosalvarsan or novarsenobenzol Billon, dissolved in an amount of water never exceeding 2 c. c. They found that novarsenobenzol dissolved very quickly by the addition of the water to the drug contained in the ampoule and gently shaking it until completely dissolved. Neosalvarsan did not dissolve so readily and they advise that care should be taken to distribute the neosalvarsan in a thin layer over the lateral walls of the ampoule by tilting the ampoule and gently rotating it. This simple manipulation prevents the formation of a semisolid mass at the bottom of the ampoule and allows the drug to go easily into solution. Distilled water was usually used to make the solution, but when it was not available, boiled filtered water was used without producing any untoward reaction. The authors state that the concentrated solution is perfectly well borne and they have not observed any vein irritation produced by the injections. Inflammatory induration has occurred due to leakage from the vessel into the surrounding cellular tissues but is not more marked than that occurring from much more dilute solutions. General reactions were usually not observed; in a few instances very mild general reactions followed the injections.

Treatment of Deep Facial Scars.—Poulard (*Presse Medicale*), asserts that complete removal with the knife is justified only in superficial, elevated scars. In deep, depressed scars adhering to the underlying bone, complete removal may lead to great difficulties by reawakening deep infectious processes that had subsided. Often the scar is acting as a stopper in an opening leading into one of the sinuses or the skull cavity, and its removal is useless and dangerous. Poulard makes a deep incision in the healthy skin around the scar, then removes with the knife the superficial epidermal layer covering the scar, leaving, however, the main fibrous mass of the latter behind. The margins of healthy surrounding skin are then freely loosened, brought together, with a thick layer of adipose tissues, over the cicatricial mass, and sutured there. Esthetically this procedure obviates the unsightly depression left after complete excision of a scar. The scar itself fills up the base of the depression, and the

thick, healthy tissues brought over it suffice to form a level surface. The sutures should, of course, be skilfully placed to secure the best esthetic results.

Intermittent Fever from Meningococcal Septicemia.—Netter (*British Journal of Children's Diseases*), concludes that meningococcal infection may assume the clinical appearance of typical intermittent fever, quotidian, or tertian. The attacks often coincide in such cases with the appearance of an eruption, such as, erythema nodosum, erythema multiforme or purpura. These eruptions, which might arouse attention, are often absent. In the majority of cases symptoms of cerebrospinal meningitis succeed these febrile attacks but they may not appear for one or two months or more. Meningitis may be absent altogether. The diagnosis must be made by bacterial examination. Blood cultures and cultures from the nasopharynx will supply valuable information. The intermittent attacks give way rapidly to serum treatment. Serotherapy may cause an alarming reaction soon after the first injection. Intrathecal injection is less dangerous than intravenous.

Cuneiform Fracture of the Upper Extremity of the Tibia.—Bec and Hadengue (*Paris Medical*), report the case of a soldier with a history of twisting of the right knee in falling into a hole. The parts were swollen and pressure caused pain especially at the outer aspect of the upper end of the tibia, which seemed distinctly broadened. X-ray examination revealed a cuneiform or vertical fracture at this point, splitting off about one-half of the right articulating surface of the tibia. The fibula was intact, doubtless owing to its elasticity. The portion of bone split off was, however, adherent, as in most similar cases hitherto reported, to the epiphysis of the tibia and the head of the fibula owing to the fibroperiosteal sheath and the joint capsule. This is the first case of this type met with by the authors among thousands of fracture cases examined since the beginning of the war. Before the discovery of the X-ray such fractures were mistaken for sprains of the knee.

Tongaline thoroughly fulfills the requirements of an eminently satisfactory remedial agent on account of its excellence of material, its uniformity and its reliability.

Bacteriological Studies in Bacillary Dysentery.—Bezancon, Ranque, Senez, Coville, and Paraf (Bulletin de l'Académie de Médecine), in studies of 300 stools during an epidemic which broke out simultaneously in several small foci in a certain military district in the late summer of 1917, were able to establish clearly the role of Shiga's bacillus in the more severe and clinically typical cases, while in the mild the Shiga organism was generally wanting and was replaced by aberrant bacilli of the dysentery group. The Shiga bacillus was isolated in large numbers from forty-three cases, and in dishes of lactose litmus agar at times almost completely replaced the normal intestinal flora, no colonies of colon bacillus being found. In twenty-six milder cases were found a number of different forms of organisms which did not correspond to any of the classical types of dysentery bacillus and never occurred in the severe or fatal cases. These atypical organisms are divided by the authors into five separate classes, according to their respective behaviors with indol and various sugars and their susceptibilities to agglutination by anti-Shiga and anti-Flexner serums. In each focus of dysentery the organisms responsible for the mild cases were of a single type. In one focus, however, the examinations revealed, in addition to the Shiga bacillus in five cases, the A paratyphoid organism alone in four cases and the typhoid organism alone in one case, in spite of the fact that the symptoms were those of dysentery. In no case in the series was the Flexner or the Hiss bacillus encountered.

Slow Convalescence.

The strong, virile, robust individual who emerges successfully from the attack of the pneumococcus, the bacillus influenzae or the mixed infection of typhoid, is more than likely to recuperate rapidly from the depressing effects of the systemic disease from which he has suffered, and his convalescence will be prompt and uninterrupted. It is not so however, with the patient, whose vital resistance was at a comparatively low ebb before the disease invasion. In such cases, tardy convalescence is the rule, unless active measures are taken to revitalize the blood and thus restore and repair the essential solid elements—the red cells, and the oxygen-carrying hemoglobin. Pepto-Mangan (Gude), performs just this necessary service by furnishing the needed organically combined iron and

manganese to build up the blood forming functions of the organism. It can also be depended upon to improve the appetite and act as a general tonic, and reconstructive, without deranging digestion or causing constipation.

Aviators and Blood Pressure.—Hirschlof, speaking at a medical meeting at Königsberg, said The London Lancet, that the blood pressure was raised after a flight, particularly in men over thirty. The amount of hemoglobin and the number of the red cells were invariably found to be increased in men who had been flying for some time. The lymphocytes also were more numerous. Flying provoked no organic changes in the heart other than those associated with athlete's heart. Another speaker suggested that the reason why mountain climbing might induce certain symptoms at an altitude of only 3,000 metres, whereas the airman did not suffer till he had reached a considerably greater altitude, was that the airman had not exerted himself much in getting to this height.

Building Up After Typhoid.

As a means of building up the system following typhoid fever cod liver oil is of the utmost advantage for it supplies the very elements which have been drained away during the protracted illness. But it should be remembered that owing to the impairment of digestive functions it is necessary to choose a cod liver oil product of palatability and one easily assimilated, otherwise the weakened gastric apparatus is subjected to too great a trial.

Cord. Ext. Ol. Morrhuæ Comp. (Hagee) contains everything of therapeutic or nutritional value that the plain oil has—hence its superiority to the plain oil. Its acceptability gives it a special sphere of usefulness in women and children.

British Doctors to Have Women Chauffeurs.—Sir Watson Cheyne was asked in the British Parliament whether the chauffeurs of doctors might not be exempted from military duty, because doctors were very dependent on experienced drivers. The Parliamentary Secretary for the Ministry of National Services said that in exceptional cases time might be given to find a substitute, but men were too urgently needed to make the concession general and women would have to be used as drivers.

Abortive Treatment of Furunculosis.—

Burnier (Presse Medicale), recommends the root of the burdock, *Arctium lappa*, for this purpose. It must be collected in the spring, while the leaves of the plant are growing; otherwise, it is not therapeutically active. Its properties can be preserved by subjecting it to "stabilization" by the procedure of Perrot-Goris, which destroys the oxidases and thus prevents deterioration of the dried root. While empirical, the therapeutic action is very evident in furunculosis, no matter how long the condition has been present. Generally, within twenty-four to forty-eight hours after ingestion of the drug the pain passes off and the inflammation is allayed, and on the third or fourth day the core and pus surrounding it are spontaneously evacuated. Where there are several furuncles, those farthest advanced show this transformation; the more recent ones shrivel and have usually disappeared by the time the others open. The treatment was employed with success in several cases. A typical case was that of a man of twenty-eight years who had been having for three weeks a series of furuncles on the neck, cheeks, and eyelids—the latter with marked edema. After ingestion of nine pills of the drug each day for three days, the furuncles opened and dried up, and no more appeared. The local treatment consists merely of applying dry gauze to prevent friction by the clothing. The amount of the drug administered three times each day in pills made from a soft extract is 0.6 gram. The treatment is continued until the lesions have completely healed, i. e., for about five or six days. The author adds that

the drug is devoid of effect in folliculitis or other superficial staphylococcic affections of the skin; in such cases, tin and tin salts, as recently recommended by Frouin and Gregoire, should constitute the internal treatment.

Signs of Death in Military Practice.—

Satre (Presse Medicale), states that Icard's fluorescein injection and the acid reaction of the splenic pulp, the procedure of Ambard and Brissemorel, have both given satisfactory results in sanitary formations at the front and afford certain information of actual death. Other procedures, of a physical order, have also given good results. The first is Icard's forcipressure method, based on the permanence or evanescence of the ischemia of the tissues induced by compression. Another is Lorain's old procedure of exposing the forearm, calf, or thigh to a flame; if the blister which forms is filled with air and bursts with a crackling noise leaving the dermis dry, the man is dead, whereas if the blister contains fluid, death is but apparent. Among the ocular signs, hypnotic shrinkage of the eyeball is not characteristic. More reliable and constant is the sign of Lecha Marzo; this consists in placing beneath the lids a strip of neutral litmus paper, which turns red in a few minutes if the subject is dead and blue if he is living. Other ophthalmic reactions comprise, rubefaction of the eyeball by ether instillation, the actual cautery, scraping the conjunctiva, application of copper sulphate, subconjunctival saline instillations and injections, and the dionin reaction.

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No. 4

REPORT OF AN INTERESTING CASE OF EXOPHTHALMIC GOITER.*

By Foy Roberson, M. D., Durham, N. C.

Mrs. G. D., age 52, was referred to me by Dr. Clarence Jones of Hillsboro. She was admitted to Watts Hospital, Durham, September 4, 1917, and was discharged from the hospital October 4, one month later. She was readmitted January 2, 1918, and discharged January 22, three weeks later. Upon her admission the first time she gave the following history:

Father died of pneumonia. Mother living and in good health. Patient is mother of five children, four of whom are now living. One died of meningitis.

Menstrual History.—Always menstruated regularly. Had some pain with each period before marriage; none after. Was always strong and well during pregnancy. Was delicate during puberty. Had had usual diseases of childhood, such as measles, chickenpox, whooping-cough, etc.

Present Trouble.—About two years ago she began getting nervous and weak. At that time she was going through the menopause so she attributed her trouble to that. However, her condition became progressively worse and in July, 1917, which was two months before her admission to Watts Hospital, she went to bed and became unable to walk. At this time she began having a very disagreeable bitter taste in her mouth which continued until about the middle of October. During her illness before admission to the hospital she lost a great deal of weight, probably 30 or 40 pounds, had become extremely nervous, could not walk, could not sleep, and could not eat, although she did not suffer any pain except the intensely bitter taste which was just mentioned. Upon admission to the hospital in September her condition was as follows:

Female, 52 years of age. Poorly nourished; in fact, emaciated; complaining of great nervousness, marked muscular weakness, and extremely bitter taste in mouth. Examination showed both pu-

pils normal, reacting normally to light and accommodation. A moderate degree of exophthalmos was present. The mouth was negative except that the patient had lost all of her teeth and was wearing false teeth above and below. Pulse rapid, 140. Marked tremor of hands.

Examination of the neck revealed an enlarged thyroid gland with the right side being some larger than the left. The gland was smooth and soft throughout and upon auscultation a loud bruit could be heard over the entire gland. The patient's body and limbs were emaciated and the tissues very flabby everywhere.

Examination of the chest revealed normal expansion and normal breath sounds over both lungs. The heart was slightly enlarged downward and to the left, somewhat irregular in action, beating about 140 times to the minute with a loud systolic murmur heard at apex and transmitted to the left.

Examination of the abdomen was negative. Before her admission to the hospital Dr. Jones, in consultation with Dr. MacNider of Chapel Hill, had made a diagnosis of exophthalmic goiter and had referred her to us for treatment. Our findings were essentially the same as theirs and their diagnosis was confirmed.

Examination of the urine showed albumin and casts. Blood examination showed 75 per cent. hemoglobin, 4,000 white cells and 4,500,000 red cells. Had kidney function of 83 per cent. It was decided that she had better be treated medically for a while in order to find out if her general condition could be so benefited that an operation could be done. She was given absolute rest in bed, ice bag over the heart and usual medicinal treatment. Her diet consisted of very simple, easily digested food, as nourishing as possible.

For about a week it seemed that she was getting better. Her pulse ranged from 110 to 130. The bitter taste became less and she said that she felt much better. However, at the end of a week or ten days the bitter taste returned, she became more and more nervous, had marked tremor of hands, could not sleep, and required sedatives in order to obtain any rest at all. It was very plain that the patient was growing worse and that medical treatment was about to fail. We then considered injections into the gland

*Read before the N. C. Medical Society at Pinehurst.

of boiling water or quinine urea; or operation, either ligating the superior thyroid vessels or a partial lobectomy. It was very evident that any procedure would be dangerous, and as we thought we could take out part of the right lobe without much trouble and probably obtain better results than from any of the other procedure, we decided to do a partial lobectomy. Nothing, of course, was said to the patient about the operation. She was given morphine and hyoscine hypodermically the night before operation and morphine and hyoscine the morning of operation, and under nitros oxide and oxygen anesthesia about two-thirds of the right lobe of the thyroid gland was removed with a minimum amount of shock to the patient. She was returned to bed in fairly good condition and reacted very well although she was highly nervous and her pulse was rapid. In two or three days the pulse became slower, her general condition became better and she said she felt much better. The bitter taste of which she had complained so much was also better and it looked as though she would go along and improve very much. However, it was explained to her family that this improvement would probably be temporary and that she would have to have another operation, probably in two or three months. Much to my surprise at the end of one week she became much worse, her pulse was very rapid, nervous symptoms greatly increased; she refused to eat, became intensely homesick and it looked as though she could not last much longer. At the urgent request of her family, and I, myself, thought it would probably be her only salvation, I decided to let her go home. She was taken home in the ambulance and stood the trip fairly well. Her condition remained very bad for several days longer, when she began to improve. All the symptoms which had become so much worse improved, her appetite came back, and in three or four weeks she was able to be out of bed and was apparently gaining weight. This improvement lasted for about two months when, just as we expected, the symptoms began to return and we advised bringing her back to the hospital for another operation. She was brought back to the hospital January 2, 1918, and on January 10 was operated upon the second time. This operation was done under practically the same anesthesia as the first operation, and this time the entire left lobe of the thyroid gland was removed. The operation consumed about 40 minutes. The

patient had very little shock, reacted promptly and began to improve almost immediately. She was discharged from the hospital January 23 eleven days after the operation with wound entirely healed and feeling better, according to her own statement, than she had felt in several months. Upon her return home she weighed 80 pounds. It is now three months since her last operation and since that time she has been better in every respect and has gained about 30 pounds.

As to the cause of the extremely annoying bitter taste complained of I cannot explain. Nor have I been able to find any reference to such a symptom in looking up the literature.

SOME OF THE MORE IMPORTANT BONE DISEASES AS DEMONSTRATED BY THE X-RAY.*

By R. L. Pittman, M. D., Fayetteville, N. C.

There has never been a greater aid to the medical profession, both in diagnosis and treatment of many diseases, than is found in the proper application of the X-Ray for diagnostic and therapeutic purposes. Early in the discovery of the X-Ray Rontgen in 1893, much doubt was expressed as to the efficiency of the X-Ray, many great authorities of that day, often referring to the X-Ray machines of that time, which were of course in their earliest experimental stages, as mighty nice things to play with; and I, myself, have heard some men who call themselves good surgeons, say that before the day of the X-Ray they had no trouble in treating fractures, that they could easily differentiate the various diseases of the bones and joints. This of course is no discredit to the X-Ray, but is good evidence of not only a poor X-Ray knowledge on the part of such surgeons or practitioners of medicine, but is an absolute indication of their ignorance and guilt, as now we have a means of detecting such errors before it is too late, and can prevent both undue suffering and permanent deformity on the part of many patients.

Is the X-Ray still an instrument for specialists? No, not altogether. Of course it is not practical for every practicing physician to possess an X-Ray outfit but he should always, in case of doubt, or where he wishes a more conclusive and positive diagnosis, refer his case to a competent roentgenologist where his pa-

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tient can receive expert service in this line.

The knowledge of the various diseases of bones and joints has been much augmented and new laws of differentiation between inflammatory, syphilitic, tuberculous or osteomyelitic processes, and osteoma, osteosarcoma and osseous cyst have been established. Therefore, the purpose of this paper is to impress upon every one of you the importance of acquainting yourself with the facts set forth in the following paragraphs in the diagnosis of osseous diseases and differentiating one from the other.

From the title of my paper you may surmise that I want to undertake to discuss all diseases common to bones and joints. No, that is not my intention. I shall name several only to pass them by. Namely, xostases, arthrites, acromegly, rochele, etc. The three most common osseous diseases and by far the most serious are syphilis, osteomyelitis and sarcoma. I shall endeavor to establish the characteristic points of differentiation of these diseases.

Acute Osteomyelitis and Periostitis: Both septic and tuberculous differ only in their rapidity of development, history and course of the disease clinically. The X-Ray findings are essentially the same. There is usually a history of trauma, if tuberculous in origin or of trauma plus infection, or of septic trauma, in the case of the latter. The acute stage cannot be differentiated by roentgenoscopy from either inflammatory processes of bone. The chronic stage can, however, be easily differentiated from syphilis, sarcoma, cyst, etc. The early stages of this disease are characterized by areas of increased translucency while in chronic stages, the involucrum can be easily demonstrated, with evidence of necrosed myelin, irregular and thickened periosteum, with thinned and irregular corticle; the lesions as a rule being most marked in the epiphyseal region.

Syphilis, Syphilitic: Bone involvement is fortunately infrequent, but in the absence of a painstaking clinical history and subjecting the blood of the patient to a Wassermann reaction, a differential diagnosis is difficult.

Syphilis manifests itself in two ways—Periosteal and myelogenous gumma. In periosteal gumma, the shafts of the long bones are occasionally affected, but more frequently the short bones, as the metacarpal and metatarsal bones. There are multiple areas of translucent, the periosteum thickened, and corticle portion re-

maining, while myelogenous gumma causes corticle to be thickened, areas of inclosed translucency and enlargement of the bone region affected. Of course, now we have the assistance of the Wassermann reaction, and within a day or two such conditions can be positively classed, according to the result of the Wassermann reaction of the patient's blood.

Bone cysts are rather common, but can be easily differentiated, usually occurring in the extremities of the long bones as radius, ulna, humerus, etc. The cystic area appears as an enlargement of the bone wall, thinned and regular in outline.

This brings me to the most important, to my mind, of all osseous tumors or enlargements. There is usually a small enlargement of the bone and, with close questioning, usually a history of a trivial injury, negative Wassermann, etc.

Sarcoma usually affects most frequently the long bones, the maxilla, turbinate bones, etc.

So many times the patient and physician are so apt to consider both the enlargement and symptoms to be the result of a rheumatic joint or bone and will take treatment for same while every hour such an individual is inch by inch slipping to his grave; so many times to both the patient and his physician is the true nature of the disease determined where the condition fails to respond favorably to treatment. Then the patient seeks consultation; and if the consultant is on the alert, the history of injury, often trivial in nature, can be elicited. The Wassermann reaction is negative, and the X-Ray shows, as expressed by Beck of New York, who drew the following conclusions from a study of 107 cases of osseous sarcoma, as stated in his words: "The writer feels justified in saying that in osteosarcoma the outlines of the bone always appear more or less abnormal and indefinite, some areas appearing entirely translucent."

Periosteal sarcoma appears in the skiograph as a thickened condition of the periosteum, usually occurring in the long bones. In my experience the diseased margins are sharply defined. The enlargement at first appears laterally, which sooner or later may encircle the bone and is characterized by a translucent area with osseous trabeculae penetrating and ramifying the tumor. Periosteal sarcoma is the most malignant form of bony growths.

Myelogenous sarcoma appears in the medullary portion of the long bone as a translucent area. The corticle is thick-

ened, the periosteum is at first smooth, but sooner or later becomes involved and irregular. The osseous tumor as a rule is more or less sharply defined as outlined by the X-Ray.

Many writers speak of differentiating the various cellular types of sarcoma, namely, round, spindle, and giant cell, according to the texture and density of the tumor area as it appears in the skiograph. This I have never been able to do, and think I shall be satisfied to diagnose the malignant nature of the tumor with sufficient accuracy to warrant immediate radical procedure.

From the foregoing facts I urge each of you when dealing with a bony enlargement to keep ever in your mind the possibility of it being of a malignant nature, and it should be kept under close observation with repeated X-Ray examinations to ascertain whether or not the enlargement is increasing in size with noticeable enlargement of the veins on the surface and the rapidity of the growth. By all means have the parts thoroughly examined by a competent roentgenologist and repeated pictures made from time to time, until the exact character of the tumor is defined. A Wassermann reaction should be performed, a careful clinical examination and history taken and, if necessary, exploratory operation performed, removing a portion of the tissue involved and subjecting it to microscopical examination.

The X-Ray plays the same part in bone disease in making a positive diagnosis as does the microscope to the kidney and intestinal diseases. Only in few instances is the microscopical examination absolutely positive in its diagnosis, independent of the clinical findings, but when the microscopical evidence is linked with the clinical picture many times it makes a doubtful diagnosis a positive one, and vice versa.

The same is true of the X-Ray. Absolute dependence free of all other research and evidence cannot always be attached to X-Ray diagnosis, but when the diagnosis of the X-Ray is again linked with the clinical side of the case, many a puzzling case is made plain and an uncertain diagnosis is made positive. In this way many limbs and lives have been saved as a consequence. This is especially true in the study of the most common diseases of bone as described in this paper, hence my desire to again bring this important means of study of bone diseases before the members of our Medical Society.

ESOPHAGEAL STRICTURE.*

By J. B. Wright, M. D., Raleigh, N. C.

All diseases of the esophagus are essentially stenotic or nonstenotic. From my subject I could deal with every phase of esophageal strictures discussing them historically, pathologically, etc. It is my purpose in this paper to discuss esophageal still besieged with countless inquiries, for gaeal strictures as they are at the present treated by our leading esophagoscopist, that is by direct endoscopy. I make no claims to originality in what is said in this paper, but shall briefly describe what I have been taught in the past three years, combined with my very limited experience. In the meantime, I shall also freely quote Chevalier Jackson's recent book, "Peroral Endoscopy and Laryngeal Surgery." It will be impossible for me to properly mark in quotations all that is said in this paper that also is in his book, for I have been in his clinics and taken his courses for the past three years. So much by way of explanation.

Etiology. The most frequent causes are swallowing corrosive poisons, especially caustic alkalis. In the rural districts where home-made soap is still in evidence, the old ash-barrel and the grocer furnishing the lye, makes a very frequent cause for a child getting a swallow of either the lye or the drippings from the ash gum. Washing powders nearly all contain to a more or less degree some form of caustic alkali.

All forms of cancerous conditions of the esophagus as it progresses finally cause esophageal stenosis, papillomata, epithelioma and tubercular lesions are also causative factors in esophageal strictures. The swallowing of strong acids, syphilis, scarlatina, diphtheria, erosions due to the debilitating effects of typhoid fever; for example, the decubitus ulcers following typhoid fever, in which when healing takes place forms cicatrices. Esophagitis, or any condition causing an erosion or wound in the mucous membrane lining of the esophagus, when healing takes place, can be the cause of a stricture. One of the cases I now have under my care gives a history of cutting his esophagus by swallowing a piece of sharp beef bone three years ago. All the other cases I ever saw were caused by swallowing a solution of lye.

Symptoms. These are not hard to ascertain. The patient plainly tells you, or

*Read before the Pinehurst meeting of the N. C. Medical Society.

you readily see if the patient is an infant, that there is something wrong with the act of deglutition. If a patient has difficulty in swallowing, or regurgitates, or spits, or vomits up his food, or chokes or coughs when attempting to swallow, and this condition lasts for several days, together with a history of having swallowed a caustic, or some other evidence pointing toward a damaging of the esophagus, then it is wise to suspect a mechanical obstruction of the esophagus. Yet, with all the evidence pointing toward esophageal stricture the esophagoscope should be used in every case. It requires but a very few moments to look into an esophagus with an esophagoscope, and it does not require either a local or general anesthetic, it will be a great achievement for our specialty when the commonsense practice of passing the esophagoscope more frequently for diagnostic purposes becomes a more usual custom. When the esophagus is inspected then and not until then can a real positive diagnosis be made. It is no more justifiable to treat an esophagus or ignore esophageal symptoms without an esophagoscope than it is to treat a patient with uterine symptoms without a local examination. I shall not attempt in this brief paper to discuss all the methods used in examining the esophagus.

Diagnosis and Esophagoscopy Appearances of Cicatricial Stricture. No endoscopist can make a diagnosis of an esophageal stricture unless he is thoroughly familiar with all the various pictures to be obtained from a normal esophageal mucosa. He may be confronted with a variety of problems, for instance, he may be consulted for a complete stenosis, and upon a thorough examination it may be found to be a particle of food acting as a plug in the lumen of the stricture. This, I have never had to occur in my practice. Jackson says it is not a frequent occurrence because the patient soon learns to produce vomiting artificially and thereby relieves the stricture.

When a stricture is seen through the esophagoscope it appears as a whitish spot or band. If we are not familiar with the normal appearances encountered, we certainly will never be in a position to use an esophagoscope intelligently; hence, I grasp this opportunity to urge every member of this Society who is attempting to do this work, to make a firm resolve to use the esophagoscope more for diagnostic purposes in the future than he has been doing in the past. It is essential the endoscopist should be famil-

iar enough with the field of operation to at once recognize a stricture by sight and not be lost and not know where he was or what was before him. If this is the case, there is but one thing to do and that is to familiarize ourselves with the appearances of an esophagus seen endoscopically. You cannot learn this from text-books or magazine articles or the cadaver, it can only be learned from experience on the living.

Under the head of diagnosis, I will say all the symptoms previously mentioned and the direct inspection of the pharynx and cricopharyngeus with the esophageal speculum, and then inspection of the esophagus with the esophagoscope are all essential in making a diagnosis and too, the esophagoscopist must never forget the X-Ray, for it is one of the most important steps to be taken in making not only a diagnosis, but excluding complications and confirming the esophagoscopy findings. The X-Ray is not nearly so essential in strictures as it is in foreign-body cases.

Position of Stricture. I have had only five cases of esophageal stricture. Four of these were from drinking solutions of lye, and one from getting esophagus damaged by swallowing a sharp piece of beef bone cutting the esophagus. All five of these cases were in the upper third of the esophagus near the cricopharynx. All were single except one, and it was double, the second stricture being a short distance below the cricopharynx.

Prognosis. The prognosis of untreated esophageal stenosis is unfavorable as far as recovery is concerned. There probably never was a complete spontaneous recovery. The dangers are not so great since we are able to treat each case by direct inspection and see definitely what we are doing. The old blind bouginage method was far from being free from danger. With a careful painstaking operator the most of the cases due to swallowing caustics can be cured by the direct inspection of each case, and never passing a bougie except by direct inspection with the esophagoscope or the esophageal speculum in the case the stricture is at the cricopharynx.

Treatment. The patient is placed on the operating table flat on his back, with the middle of his shoulder blades (scapulae) even with the end of the table. An assistant holds patient's head, flexing head backward as far as possible, the axis being at nape of neck, not bending the neck backwards, with assistant's right arm under patient's neck holding bite

block in mouth with forefinger of his right hand. With thumb of left hand on patient's forehead and fingers on occiput constantly flexing head backward and at the same time holding head slightly above the level of the table. With patient thus, the operator introduces the esophaguscope, if he is thoroughly familiar with his work. I have had difficulty in getting by the tongue and cricoid folds, and fearing I might do damage to the patient and also realizing the greatest danger point is at the crico-pharyngeal fold or stricture, I have adopted the plan of introducing the esophageal speculum noticing the epiglottis as I pass down and after being sure I am below the epiglottis the cricoid eminence or fold appears. I then have the nurse hold the speculum lifting upward and forward but being careful not to use the front teeth as a fulcrum, the esophaguscope is easily introduced through the speculum, the handle of the esophaguscope always pointing toward the ceiling. The esophaguscope is easily passed into the esophagus in a downward and backward direction until the stricture is reached with a thorough knowledge obtained by the previous history. The X-Ray and the picture that presents itself there is very little cause for not easily recognizing the stricture when reached by the esophaguscope. When stricture is reached the esophaguscope, of course will not pass farther; by gently manipulating the esophaguscope the small lumen of the esophagus can be found, then I pass a small silk-woven bougie fastened to a sixty m.m. steel rod as described by Jackson, p. 44, in his recent book. While the esophaguscope is still in position I pass two or three sizes; these treatments are now given every fourth day and is done in my office. Jackson describes five essentials in his method of passing the esophaguscope by sight, namely:

1. The correct high low position, sequence of the patient.
2. A correct knowledge of endoscopic anatomy of the esophagus in the living.
3. A clear conception of the direction and changes of direction of the esophageal axis.
4. A correct general sense of direction that enables the endoscopist to point his esophaguscope in the general direction of the esophagus.
5. A clear mental image of the esophagus and its relations to the esophaguscope.

With these five rules clearly in the operator's mind he only has to keep in mind

the five landmarks of the esophagus, namely:

1. The cricopharyngeal eminence.
2. The crossing of the aorta.
3. The crossing of the left bronchus.
4. Hiatus esophagus.
5. The upper thoracic aperture.

So much for passing the esophaguscope, and locating, and recognizing the stricture. That I may best be able to explain my treatment of these cases, I shall briefly describe two cases I have treated:

Case 1. July 13, 1915. C. B. Barber's child. 18 months old. Swallowed small amount of concentrated lye two months previous. Was getting so it could not swallow any solids or liquids, only poorly. With the esophageal speculum I located the stricture at the cricopharyngeal fold, and passed the olive bougie, passing the three smaller sizes the first treatment. I waited ten days and passed the same three sizes, and waited about a week and passed the same three sizes and increased a size larger. I kept this up, passing these olive bougies about once every week or ten days until January 1, 1916, when patient came about once a month for about three months. Child could eat any and everything as though his throat had never been damaged.

Case 2. J. J. Boyett's child, 2 1-2 years old. Came to me July 26, 1915, giving history of having gotten some concentrated lye off table while mother's back was turned, in April of the same year. After the child's mouth got well it could eat any and everything without difficulty in delutition, but in about two or three weeks could not swallow solid food well. This condition very rapidly increased until July 26, when child was brought to my office very much emaciated; looked as though it were in the last stages of a long drawnout attack of ilioocolitis. I failed to record what size bougie I used on this case at first, but as best my memory serves me I had great difficulty in getting anything through at first, and I used a whole bone filiform bougie, and finally eased it through the lumen of the stricture, and then threaded a small sized olive bougie on the filiform and in this way passed my olive bougie. I then secured the Jackson silk-woven bougie mounted on a small steel rod. I used these up to the largest size, passing one every week, and the case rapidly improved, soon gaining in weight and strength. The case was then dismissed as cured, January 3, 1916.

Case 3. Mr. W. D. D., farmer, age 44. Previous history, negative. Wasser-

mann, negative. Well nourished. Gave a history of swallowing a piece of roast beef at a Raleigh restaurant about three years prior to his first visit to me. His throat was very sore for a day or so, then he consulted a general practitioner (I do not remember the name) who removed a sharp piece of bone from his throat. After the removal of the bone his throat very promptly healed. About a year and a half later he began having a slight difficulty in swallowing large mouthfuls of poorly masticated solid food. This condition gradually became worse until he could not swallow solid food. He then consulted me on September 21, 1917. He said if I could get the obstruction out of his throat he believed he could swallow. To use his own language, he had a lump that got in the way of his food and kept it from going down. An examination with an esophageal speculum showed at the cricopharyngeal fold a flap of tissue, resembling, in size and appearance, the epiglottis. I bit off a piece of this flap and had it examined and found it to be a papilloma covered with normal epithelium. I have been passing a No. 26 Jackson bougie every fourth day.

The other two cases have nothing special to report. Simple cases of stricture due to swallowing concentrated solution of iye.

The use of the ampoule marks a decided advance in the ease and accuracy with which sterile solutions of potent drugs can be administered.

Among the manufacturing pharmaceutical houses that have done much to develop the ampoule, perfect it and increase the scope of its usefulness is Eli Lilly & Company of Indianapolis. In fact many physicians so closely associate the Lilly label with ampoules that they think of Lilly as THE Ampoule House, notwithstanding the fact that this concern is among the leading biological as well as pharmaceutical producers in America.

A beautiful new line of Aseptic Metal Pocket Cases has been added to the Lilly list and a handsome catalog in four colors, showing these items, will be sent to our readers upon requests addressed to Eli Lilly & Company at Indianapolis. These cases in gold and nickel offer a compact means of carrying ampoules or hypodermmatic tablets together with a syringe. The cases occupy but little space and are already becoming quite popular it is said. This is not surprising since they serve a highly useful purpose.

SUDDEN DEATH IN INFANCY.*

By L. W. Elias, M. D., Asheville, N. C.

Tragic is the death of a little baby, always. But doubly tragic is the occurrence when the baby dies suddenly. Following the first pathetic lamentations come a flood of questions as to the cause. The family are harrassed with the fear that there may have been foul play, or a possible neglect somewhere on their part. The doctor is often hard pressed to explain the cause of the death. If he is able to absolve every one from intentional or unintentional responsibility, he is the human mind hates mystery without a key. And yet there are few things in medicine where the doctor is left more entirely to guess work than in just such cases as these. In the first place the history of the case is usually meagre and unreliable, there had been no thought of trouble in the parents' minds, hence no special ante mortem observations of the case; or else the child was found dead, and there is no history beyond the fact that it seemed perfectly well when it went to sleep or was left playing in its bed. So that, short of an autopsy, and often even with one, the doctor is left almost entirely to conjecture in these cases.

While this is true, it is quite worth while to consider briefly, some of the most frequent of the many possible causes of sudden death in infancy. In the first place, the child may have been, as it seemed, entirely well prior to its death. In this case the mother may have lain upon it, usually when intoxicated. This is naturally an infrequent cause.

Then, the child may have been well, so far as a previous examination would have shown, when suddenly a collapse occurred, and in a few hours the baby was dead from meningeal hemorrhage or hemorrhage into the peritoneal cavity. Or further still, there may have been some malformation of kidney, heart, lungs or intestinal tract or a diaphragmatic hernia, and from one of these, in the first few days of life, the baby may have died. It is needless to say that most malformations which are sufficient to cause death are readily detected by examination. This may not be said regarding thymus enlargement. Here a most careful examination during life, including X-Ray, and with a full consideration of all symptoms,

*Read before the Pinehurst meeting of the N. C. Medical Society.

may still leave us unable to say definitely that a status lymphaticus exists. Yet of all the underlying causes of sudden death in minor operations, at times as insignificant as the puncture of a hypodermic needle, nothing is more frequently responsible than is this condition. This condition again becomes responsible for many of the deaths from anesthetics, light attacks of bronchitis, broncho-pneumonia, etc. Let us remember thymic enlargement as one of the frequent causes of death where no cause for death was suspected. But this must not lead us to carelessly assume that all obscure deaths are of thymic origin, and fail studiously to consider the other possible causes.

Vomiting, and then aspirating the food into the larynx is occasionally responsible for the death of a small baby, most apt to occur during sleep, in a frail baby, under six months of age. Lying on the back at the time of vomiting favors this occurrence. Under such circumstances, the baby will probably be found dead in its crib and only a careful autopsy will reveal the cause of death.

Convulsions may cause death at times in previously healthy children, but this occurs most often in rachitic babies. In this connection may also be mentioned spasm of the glottis.

A seemingly well baby may become profoundly prostrated, the temperature going up rapidly to 106 or 107, followed by death in a few hours, at times with convulsions. The cause here is usually some form of acute septicemia. Occasionally malignant scarlet fever or pneumonia may be the cause, but there are various types of the infectious agent.

And now let us consider a class of cases where it was known before that the patient was not well, but he was considered in no immediate danger. Marasmic babies furnish a large number of sudden deaths, with or without some apparent exciting cause. Those in institutions are the ones coming to such an end most frequently. Many are found dead in bed in the morning, others dying after two or three hours illness, without any symptoms except the impaired nutrition of weeks standing. In some of these cases the simple lowering of the temperature seems to be sufficient exciting cause to decide a rapidly fatal termination. At autopsy an atelectasis may be found, as in the case of sudden death in very young infants. But in many cases autopsy reveals nothing at all. In every case of sudden death in poorly nourished or rachitic children, the condition itself must

always be thought of, as the underlying if not exciting cause, and the vast majority of all sudden deaths in infants, regardless of what the immediate cause is, occurs in babies suffering in greater or less degree from marasmus.

In older babies and young children, sudden death may occur from an entirely different class of causes. Here an unsuspected retropharyngeal abscess, or abscess from caries of the spine, or the presence of tubercular glands may cause death by pressure either on the pneumogastric nerve or against the larynx, still further by ulceration and rupture of these abscesses or tubercular cheesy masses into the air passage death may result. A still further cause, of somewhat similar nature, is dislocation of an upper cervical vertebra in Potts' disease.

The foregoing is a very sketchy outline of the usual causes of sudden death in infancy.

In conclusion, let me mention again that marasmus underlies the majority of sudden deaths in infancy. Remembering this fact may not only be of some assistance in arriving at a diagnosis, but the proper emphasis upon this point should result in diminishing the number of deaths in infancy.

Safety First.

Thus when we have such diseases as Lithemia, Rheumatism, Gout, Tonsillitis, Rheumatic throat conditions, Eczema, Urticaria and manifestations due to the backing up of the poisonous uric acid in the blood, we naturally turn to the treatment of diet and a proven uric acid solvent.

So, too, in those conditions where perverted metabolism is caused by such fevers as pneumonia, typhoid, etc., we seek to have a more rapid convalescence by elimination of the excess of uric acid.

And finally in diseases of the kidney where even the normal formation of uric acid is not easily eliminated, we must aid it in elimination to prevent any serious backing up which usually occurs.

It is important in all these cases to take the question of increased uric acid formation in hand early, and ample clinical evidence indicates that Hayden's Uric Solvent meets successfully these requirements.

A faithful trial of it in two or three cases proves its worth, and when once tried its field of usefulness will become enlarged.

A tried and proven product gives safe and sure results.

THE MIDWIFE PROBLEM.*

By G. H. Macon, M. D., Warrenton, N. C.

All physicians with country practice have to contend with the ignorant and superstitious midwife.

I was called not long ago to see a patient that had just been delivered by one of these women. When I arrived this old midwife was the first to meet me and take me aside for a little private talk. She said the patient had a little rush of blood to the head; it made her dizzy and faintified (as she termed it), but insisted the patient was all right and resting quietly then. I agreed with her, but if I had not been prompt she would have continued quiet until judgment day. I made an examination and found her pulse so fast I could not count it. The pelvic examination disclosed a relaxed uterus, and the uterus contained about one-third of the placenta which was removed. This removed, the uterus was made to contract by large dose of ergot and external kneading of this organ, then packed tightly with iodoform gauze. I saw her several times and she made an excellent recovery. This illustrates one of the many cases where the patient would have died had she been left in the care of the midwife, for the trouble in this case was that she detached part of the placenta by pulling on the cord and left some of the placenta in the uterus.

Doctors who practice in the country have often heard these old women say that "Mrs. Smith" would not come around this month because the moon was not right.

I knew a negro woman who is very intelligent, and I always get her to work with me when possible. I have instructed her thoroughly what to do in an emergency, when to send for me, etc. I know of several instances where she has worked alone in emergencies with intelligence and exactness. What she knew I had taught her. Once you have an intelligent and interested negro taught you have an excellent nurse. They not only look after the patient, but will attend the house work.

I once asked an old woman what she did when her patient flooded, and if she ever gave ergot. Her reply was she would put cold cloths on her head and elevate it, but she didn't believe she had ever seen any ergot. The majority in the rural district use this old woman's treat-

ment, and when the patient dies they console the family by telling them the baby came on the wrong time of the moon or the womb did not sit right.

The worst obstetrical cases that I have to attend, the dangers could have been avoided had not the ignorant midwife told the patient that the continual oozing of blood was natural and there was no need of consulting a physician. She would assure her that "Mrs. Brown" over the creek had suffered the same way, but came out all right. Now Mrs. Brown did not have a placenta previa, but this patient did. She died and the midwife was directly responsible.

The majority of these women never wait a reasonable time for the placenta to separate; they know nothing about how to make the uterus contract; they only know how to pull the cord, and in most cases the cord is broken or the placenta is gotten before it has fully separated, consequently we have retained placenta hemorrhage, puerperal infection.

The majority do not know how to give a douche; they do not know that the eliminative organs should be carefully watched in a pregnant woman. When they are engaged on a case and the patient suddenly develops a toxic convulsion they will tell her relatives "she took back," as they express it, after some of her relatives, leaving the impression it was inherited. I find some of these women are very smart in covering up their mistakes, and in most cases get by with them very cleverly.

In regard to the baby, they never use antiseptics to sterilize their hands, although most of them through fear of prosecution, use silver nitrate as prescribed by law. I contend that they carry infection into the baby's eyes from their dirty hands. I believe a large number of cases of ophthalmia can be traced back to the midwife. In regard to the cord, most of the midwives do not change the cord dressing in four or five days, and instead of thoroughly cleansing the cord each day, they will not use water on it in six or seven days. Most of them seem amazed when I tell them that the cord dressing should be changed and the cord thoroughly washed each day. The majority do not seem to understand the meaning of cleanliness. They do not know what it is to instruct the patient the importance of keeping the nipples cleansed after each nursing, also the importance of regular intervals for nursing and the length of time the child should nurse. They be-

*Read before the Pinehurst meeting of the N. C. Medical Society.

lieve in the child nursing until it goes to sleep at the breast.

We frequently find the unnecessary death of an infant due to the fact that the midwife will prescribe paregoric when the baby is restless from over-feeding or under-feeding until it is kept in a stupor, the digestive organs do not functionate properly, due to the stasis caused by the opiate, also the secreting glands are made inactive, hence digestion stops and the child soon dies.

On my last case was the most ignorant midwife I've ever encountered. This case was adherent placenta. The after treatment required sterile douches to be given at regular intervals. I instructed her the right proportions for these douches, taking for granted she knew where to insert the nozzle. She asked me if I wished the douche given in the rectum or the vagina. Through disgust, I told her to give it in the ear.

The remedy for the ignorant midwife is up to the doctors to solve. I think the physicians in every community or township where the midwife resides should select the most intelligent of these women and see that they are taught the proper care of the patient. The county physicians could require them to come to their office and receive the proper instructions, have the county board of health give them a license when they have finished their course, then it should be a misdemeanor for any other to practice midwifery.

I feel sure if we could adopt this plan it would help reduce the obstetrical mortality in the rural districts.

Administration.

The usual methods of administration are as follows but with continued use you will find in some cases slight changes will better meet such conditions as the severity of the cause or the idiosyncrasies of the patient.

Method of Administration.—As a tonic or alternative, give one teaspoonful of Hayden's Uric Solvent three times a day, half an hour before meals and at bedtime. As a solvent and diuretic, give two teaspoonfuls, which may be repeated three or more times a day, at the discretion of the medical attendant and the urgency of the case. The treatment here laid down should prove most satisfactory. As will be seen by the formula of Hayden's Uric Solvent, the first object is to alkalize the blood and thereby neutralize the most prominent causes of neuralgia and rheumatism, where such a diathesis exists.

WHAT PUBLIC HEALTH OWES THE INFANT.*

By L. W. Elias, M. D., Asheville, N. C.

Public health service to the infant is largely one of prophylaxis. Holt says: "There is no more promising field in medicine than the prevention of disease in childhood." With the imperative demand for greater man-power, coupled with the frightful loss caused by the war, the conservation of child-life assures an importance such as was never felt before. The means by which public health must work is education, through the press, through legislation, and more directly and effectively, through the visiting nurse. This education must reach and influence the mother. When the mother has the knowledge, and in such a forceful way as to affect her care of her baby, then public health will have discharged its obligation to the infant; and not till then can it rest from its labors.

This paper lays claim to no profound advice on the subject; but merely attempts to consider one vital aspect, namely, the kind of knowledge that should reach the mother. The suggestions are from the viewpoint of one treating children. What will be said is merely a brief outline of the information that must be gotten to the mother, regarding her baby, and incidentally, concerning herself. As the paper is cast in the form of an appeal to the mother, please pardon a rather didactic style.

Much can be done for the baby before it arrives in the world. The proper care of the mother goes far towards insuring the health and life of the baby-to-be. In Boston an organization of philanthropic women who looked after pregnant women workers, were able to reduce miscarriages and stillbirths 15 per cent. and very materially increase the number of those who lived after birth. The means which they employed were visits by a trained nurse who took blood pressure, examined urine, inquired about the general symptoms, and advised proper diet and hygienic living. All abnormalities were at once reported to physicians, who took the proper steps to right them. Arrangements were made by which the woman's work was lightened for her, and the last six weeks they did not work in the factories, but rested. The future of North Carolina could be greatly improved by such care.

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During this period one should attempt to win the mother's confidence, and then plant the seeds of reform in her mind. Appeal to her pride, her affection and better judgment while informing her as to the proper care of a baby. Thus not only will she be instructed, but she will be forearmed against the many false ideas of well-meaning and insistent relatives, friends and neighbors.

A further aid both to mother and baby is a hospital for the confinement; and it should be explained that it is far more essential that a confinement be conducted in a hospital, than that one should go to a hospital for an appendiceal operation. Following the birth of her baby, the mother should take at least four to six weeks rest before returning to her ordinary work again.

Let us consider the immediate care of the baby. One-fifth of the race dies in the first year of life, one-tenth in the first month. So it is readily seen that using prophylactic measures at this point is attacking the subject where the greatest need exists. Therefore we should concentrate on this critical period.

Not only must the newborn baby breathe, but it should breathe immediately and deeply. Prolonged asphyxia is detrimental to the brain cells, and may cause permanent damage; while atelectasis is a frequent cause of death in the newborn, and must be prevented by securing deep breathing at first, and maintaining good respiration, aided frequently by vigorous crying. The mother must be taught that crying is as essential to the baby's health (its only exercise) as is romping and shouting for a two-year-old. To prevent the exercise in either case is harmful. So teach the mother not to fear crying, per se, as it is absolutely harmless, the only possible harm is from what the baby is crying about. If this is disease, or colic, or a pin, or any other trouble needing attention, relieve it; but not the crying for itself, otherwise she works against her infant's welfare.

The eyes of the newborn baby must be washed off with boric acid, and silver nitrate instilled into the eyes. The use of silver nitrate should be preached till no doctor or midwife will ever dare neglect it. Not only this, but since the agno is quickly neutralized, the eyes must not be reinfected. It must be taught that the mother and the baby are mutually infectious to each other through discharges, and these must not be carried from one to the other.

As soon after birth as convenient the

baby is greased with sterile olive oil, and wiped off with a soft towel. Thereafter it is daily soaped and wringed off in clear water, gently dried, and powdered in all the creases of the skin. The eyes are washed off daily with boric acid, and the mouth swabbed out with same, once a day, very gently. The chief object of this latter, however, should be to see the condition of the mouth rather than to try to cleanse it. Omit the washing of the mouth at the nursing period, as this is not only useless, but may easily be harmful.

The baby is quickly heated and as quickly chilled; the temperature must be kept uniform. Chilling not only causes it to lose weight, but harmfully affects the vital centers. On the other hand, piling all the dainty blankets and covers in the house on the little fellow is almost as bad. The baby's heat should be kept up by moderate covering and by the use of hot water bottles, which latter must also be watched; for if carelessly used, they may cause a perfectly normal baby's temperature to rise to 106, or above. If the baby is premature, or under five pounds in weight, the heat is of greater importance than the food. In this case, too, it is best to oil the baby and wrap in cotton, and place in some sort of receptacle which will secure uniform warmth, and at the same time plenty of fresh air without draughts, a padded basket with hot water bottles, for example. This must be continued until the weight and vitality become satisfactory. The mother and baby must have quiet, the mother, for the sake of good milk, and, as stated above, she should not resume her ordinary work under four to six weeks. This time being as free from home duties and annoyances as possible. The baby's quiet is for the sake of good digestion, and in the interest of its nervous system, the brain growing more in the first two years than in all the rest of life combined. To secure proper development it must have quiet and freedom from such unnatural stimulation as being played with, and shouted over, and being shown off to the company.

All visitors should be tabooed at first; and those especially to be avoided are people with colds, or who have been in close contact with those suffering from rhinitis, coughs, fever or indispositions of any sort. The feeble resistance of the baby should emphasize this precaution.

When one considers a newborn baby and the work that is before it, the chances against its living seem appalling. In the first place, the baby is immature in every

detail. From the surrounding skin to the bony framework within, and from the brain centers and nerve sheaths to the weak digestive juices, everywhere we find such a lack of development as to leave us wondering.

Probably we notice this most in the nervous system, where the nerve sheaths are so poorly developed that nerve impulses are easily lost, so that a baby rarely has a reflex convulsion under three months of age; and nerve control over heart and lungs gives irregular respiration, and pulse and very small stimuli cause startling and profound reaction.

Scarcely less poorly equipped for its task is the digestive system, so weak and poorly balanced that the slightest changes throw it out. We see a hot day, badly swollen gums, a slight cold, a small nervous shock as from too much handling, etc., set the baby vomiting or start up a diarrhea, so unsteady is the equilibrium of the digestive system.

This much in brief for the poor equipment of the baby to maintain its existence. But the wonder grows when we remember the second phase of an infant's activity, viz., growth, and contemplate the stupendous task of almost tripling its weight in the first year. Or speaking in adult terms, it starts the year with 142 pounds and ends weighing 400 pounds. It accomplishes this, too, with a digestive system that is set on a hair trigger. One can readily understand how carefully the food must be selected, how judiciously given, how perfect must be the elimination, that no clogging of the system occurs, while it is working constantly, at top speed, with draft, else the feeble digestive system may break down with a crash.

It is facts such as these that public health must impress on the mother if the debt to the infant is ever to be discharged.

As to feeding the baby: Let the mother know that the strength of her milk varies with the length of time between nursings, being richer in cream the oftener the nursings. Let the mother understand that prolonged crying is from discomfort, almost never from hunger. A safe rule is this, in the presence of severe crying, weaken or omit the food until the cause is ascertained. One can never go far wrong on such a course, while to follow the usual method and feed the baby every time it cries, on the supposition that it is hungry, leads to an enormous amount of harm. Of course the correct plan is to let the baby nurse every three

hours for the first six months, omitting the midnight feeding after the third month. From six to twelve months the intervals are every four hours. The same hours should be observed constantly, to avoid confusion; the baby should be waked at the proper hour if necessary, or, fussing ahead of time, should be left alone till the hour is up. By exactness in this matter, the baby will soon wake on the hour from force of habit; also it will play and amuse itself if awake before time. This regularity insures uniform strength to the mother's milk, and it trains the baby to be contented and good natured about unpleasant situations. This will go far towards preparing the baby in the best way to enjoy health; or, if necessary, to make a more successful fight in sickness.

As to the food in the first year. Mother's milk has won out over all other competing foods. And from one end of the country to the other there is an ever swelling chorus, "give the babies mother's milk." If its own mother is not able to nurse it, then some other mother—white, black, red or brown—but a healthy human mother. The color of the mother is of no more importance than is the color of a cow. Give the baby mother's milk and forget all other foods. The baby's own mother should nurse it if possible, and none but the gravest consideration should make her wean her baby.

Regarding the foods of the second year, two very important points should be stressed, namely, the thorough cooking of all starches, and cooking all vegetables until soft and tender and then straining through a sieve; remembering that the thorough preparation of the vegetable is of more importance than the kind of vegetable used. The dessert should be of the simplest and most wholesome.

Some mothers when given a plain, nutritious diet, state that their children eat everything without harm. These should be reminded that children may play near a precipice without falling over and breaking their necks. Nevertheless it is a poor place to let children play; so with foods. It is not all that can be eaten, but it is the safe food that a wise mother should want her child to have.

This brings up the great disease of the second year, summer diarrhea. Its causes are varied and not perfectly understood. But we know enough to be able to greatly reduce the incidence. First by careful attention to all mild digestive disturbances, since the disease seldom comes like a bolt from a clear sky, but is usually

implanted upon soil that has been prepared by minor attacks of digestive trouble, thought to be of no moment. Then, teach the mother to get the purest milk available, keep it constantly cool, and see that everything which comes in contact with it is sterile; and as a final measure, throughout the warm weather boil the milk.

Regarding the baby itself. On hot days take its clothes off, sponge frequently, reduce quantity and quality of food and make free use of an electric fan and any other measure that will keep the baby cool. These two measures will go farthest towards limiting both the mortality and the morbidity of summer diarrhea.

As to diseases in general. Teach the mother to call the doctor as soon as the baby is indisposed; if for no other reason, to find out if the disease is contagious. Teach the mother that if the doctor fails to look into the baby's throat he has not examined the baby, and she should call another physician.

This last is illustrated in what should be taught the mother in regard to contagious diseases; that the contagion enters the system through the mouth and nose, and that the chief danger is from the discharges of the mouth and nose. Isolate the patient, and avoid contact, with and destroy these discharges, and we have told the mother nearly all, with the exception of typhoid fever, that she needs to learn about the transmission of contagious diseases.

Let her know that the baby should be vaccinated against smallpox and typhoid. Let her know that in spite of the greatly lessened mortality through the use of antitoxin diphtheria is still the largest factor among contagious diseases in robbing her of her children, and teach her that she may and should know which are the susceptible ones and should have them actively immunized.

Conclusion.

Southern babies should sleep out of doors day and night, with few exceptions, the whole year round. This will reduce the tendency to colds, croup, pneumonia and tuberculosis, improve appetite and digestion, and thus increase growth and counteract anemia and malnutrition. Aside from unwholesome food and bad feeding habits, probably the most widespread evil among mothers in all grades of society is the neglect of a proper amount of fresh air. This sleeping out of doors the year round, day and night, should be preached in season and out of season, till it becomes such a prevailing

fashion, and its virtues so widely understood that no baby would suffer for lack of it. It is what Dr. Northrup calls the 23-hour treatment, meaning 23 hours out of the 24 in fresh, flowing air. What he advocated in New York, surely no southern doctor can afford to neglect in our milder climate. Keep the baby as warm as necessary for comfort, by all means, but keep it out in the fresh air, rather than in a room with the windows open, and the difference will be startling.

When public health has effectively taught the mother these points, its debt will have been paid up to date, and it will then be ready to take up the new responsibilities which have accumulated by this time.

THE DEVELOPMENT OF PATHOLOGY AS A SCIENCE.*

By T. M. West, M. D., Fayetteville, N. C.

Pathology as a distinctive branch of medicine is of comparatively modern date and unwelcome as the thought may be in the present state of national temper, it is to the German school as represented by Virchow that we owe its present high standard. Up until modern times morbid anatomy had been hampered by ignorance of anatomy and befogged by fantastic, unsupported theories which were put forth in dogmatic form and were defended with all the arrogance and bitterness of men jealous of their reputations for infallibility. Any question raised touching the validity of their claims was met with a storm of bitter invective and ridicule which the luckless objects of the attacks found hard to combat. The development of general science including optics and chemistry aided greatly in providing an armamentarium as a solid basis for discovery, but only in the recent years have we seen the spirit of hearty co-operation and openmindedness exerting its beneficial influence. Today a man's eminence gains him a respectful and eager hearing but the full reward is withheld until ample proof is forthcoming.

Thus is exemplified the difference between the mediaeval and modern viewpoint. Today as we meet for mutual benefit in friendly discussion, it may be profitable to look back and review the defeats and triumphs of the past, its errors and oft times heroic struggles for the truth so that we, enjoying today the fruits of the labor and travail of these

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men often broken in health and embittered by controversy, may more fully realize the richness of our inheritance.

The scope of this paper does not permit of a full account of the work of all who are worthy of mention and no attempt will be made to cover the ground exhaustively, but we will simply touch upon the labors of a few whose achievements make the brightest spots in a great firmament.

To Morgagni of Padua (1682-1771), a pupil of Valsalva, must be given the credit for the first attempt at a work on pathology consisting as it does of the contribution of a lifetime collected in five books of letters written in an easy, flowing style. His observations consisted of clinical records checked up by post mortem findings embracing a vast number of cases. He uncovered many obscure and heretofore unknown diseases. Herein he gives the first description of syphilitic aneurism and endocarditis, tuberculosis of the kidney, clinical significance of solidification of the lungs in pneumonia. His observations on general syphilis are epoch-making.

Matthew Bailey (1761-1823), a Scotchman, published a work on morbid anatomy in 1793, which seems to be the first attempt to treat pathology as a separate branch of medical research.

He described accurately for the first time hepatization of the lungs in pneumonia, gastric ulcer and ulceration of Peyer's patches in typhoid fever.

Thomas Addison and Thomas Hodgkin, Englishmen, who though they were brilliant physicians made valuable contributions to pathology as discoverers of the diseases bearing their respective names. Addison also described accurately pernicious anemia in 1848.

The founder of cellular pathology and inseparably associated with the rise of modern medical science is Rudolph Virchow, a Pomeranian, born in 1821 who after a life full of honors died in 1902. In 1847 he founded the first Journal of Pathology, in which he took the modern position that no one man is infallible in his judgment and that "an unsupported hypothesis is a very leaky bottom for practical medicine to sail or trade on." He was a bold and aggressive writer, not alone in medicine but upon political subjects as well and the ardent champion of the under dog. His utterances soon brought down upon him the heavy hand of the Prussian hierarchy. In 1849 he was deprived of his professorship in Berlin and compelled to leave the city but

was recalled in 1856 and entered upon a most distinguished career. From 1880 to 1893 he was a member of the Reichstag and was the ardent champion of the rights of the people. He served with distinction in the war of 1870. In 1899 he gave the Pathological Museum of Berlin 23,066 preparations each his own, labeled, catalogued and mounted by his own hand. He has had no superior and few equals. He first enunciated the doctrine held today that there is no specific cell of disease but only perversions of natural physiological types. One of his theories, viz., that there can be no diapodes of blood cells was disproved by Conheim, his pupil. His discoveries in thrombosis and embolism were revolutionary. Though aggressive in controversy, he was always generous of achievement and no praise was more lavishly bestowed than that which he heaped upon Pasteur and others, both predecessors and contemporaries.

Virchow's most distinguished pupil was Conheim (1837-1884), whose first important contribution was the outcome of his experiments of serous inflammations and suppuration, finally proving his contention opposed by Virchow, that there was a diapodosis of white blood cells. To this was added papers on venous stasis and embolic processes. His crowning achievement was the successful inoculation of tuberculis into the anterior chamber of the eye of the rabbit.

Koch a year or two before had brought out his treatise on anthrax and Conheim prophesied that the former would lead in the field of bacteriology. Koch's bacteriological researches mark a tremendous stride in this branch and as a laboratory technician he has never been surpassed. In 1878 his monograph on traumatic diseases with the life history and pathology of six different surgical diseases marked him as a leader. His cultural methods (1881) and the promulgation of his "postulates" loaded him with honors at the hand of the Prussian government. He received the Nobel prize in 1905 and in the following year headed the commission on sleeping sickness in Africa. His later years were clouded by domestic troubles and he lost many friends.

A contemporary of this period was Louis Pasteur (1822-1895) the discoverer of the treatment for rabies. A native of France, he began his career as a biological chemist and for a long while his investigations were conducted under the patronage of the government which saw certain industries, notably wine, beer and

the silk-worm threatened with destruction. His studies of the microorganism involved led to the discoveries in preventive vaccination. Many of the bacteriological discoveries of Conheim and Koch were verified by him.

Another bright star whose course has but recently been run is Elie Metchnikoff, the Russian savant, whose chief contribution is his theories on phagocytosis and autointoxication which enabled Wright and others to perfect the practice of vaccine therapy.

Passing to the other side of the Channel, the figure of Lord Lister (1827-1912) looms large. This kindly and gentle Englishman was and remains England's greatest surgeon. He is remarkable not only for his bold and aggressive surgery but for his revolutionary methods in antiseptics, taking away from the operative procedures many of their terrors. He gave the death blow to the theory of laudable pus and opened the way for the rapid development of abdominal and visceral surgery, an almost forbidden field until then.

In a review of this kind, the attention of the student is struck with the preponderance of Teutonic names. The English and French of the period did not have the purely scientific bent exhibited by the Germans. The tendency there as now was more humanitarian than scientific. The trend was more toward the clinical side of medicine and very few after the time of Addison and Hodgkins were pathologists. On the other hand the Teutonic passion for detail and specialization gave them the lead in purely research work. This bent has always been fostered by the government and backed by ample funds from the imperial treasury.

In this country, such men as Welsh, Carrel and Flexner have contributed much to the advancement of medical science and with the help accorded by such institutions as the Rockefeller Institute, we may confidently expect America to take her place in this field as she has in other branches of scientific investigation.

Bowel Inertia.—It is the tendency of Prunoids—not only to produce one or more movements following each dose, but to promote physiologic regularity of the bowels—that makes this remedy so much superior to “salts,” or the laxative measures commonly employed. In simple words, the use of Prunoids means the rational treatment of bowel inertia—the activation of physiologic functions.

SOME BORDERLAND PROBLEMS IN THE MEDICAL INSPECTION OF SCHOOL PUPILS.

By Jacques W. Redway, F. R. G. S., Meteorological Laboratory, Mount Vernon, N. Y.

The medical inspection of schools and pupils is an established fact in the greater part of the United States. The scope of medical inspection is becoming broader year by year. At first it was designed merely to prevent the spread of contagious and infectious ailments. In many parts of the country it has extended to an examination of bodily defects that interfere with the school progress of the pupil. As a rule, the inspecting physician reports results to the parent, and uses diplomatic methods to bring about the correction of such defects. When such cases are managed with skill and tactfulness almost always a positive gain to the pupil results.

In many instances the medical inspector is confronted by conditions which are clearly beyond the reach of the law and yet they may be conditions that need to be abated. There are still others that are on the borderland, and these are the cases that require exceeding skill and diplomacy. As the founder of the system in the city where I served many years as a school trustee I was greatly interested in the development of the work. The cases requiring instant action were so frequent that for nearly eight years my car was at the door throughout the day ready to be summoned. Here are some borderland cases which came into the routine work of the inspecting physician during the first two years of medical inspection:

Case I.—Complaint was lodged against a boy in the high school. The boy was nearly sixteen years of age, and for want of cleanliness his person had become offensive. He had come from a foreign country with a married sister. The sister died and the husband married again, and this threw the boy out of a home. He would not give up school, however, and he made fair progress with his work. He lived wherever he could, doing odd jobs and chores. He did most of his home study in the back room of a saloon, and frequently slept in a garage. He had only a single suit of clothes and no change of underwear. He had been taught Latin and algebra, but he had not been taught how to take care of his body. The inspecting physician decided that the case was not up to him. One of the younger teachers became aware of the boy's condition. She was a bit shy on educational diplomas, but she had a lot of the grace

of God in her heart. She landed the boy in a good home and taught him how to take care of himself. That same year her class fell short in examination marks and she lost her annual raise in salary. Was it a case for the doctor?

Case II.—It was in a public street. A tubercular patient had moved his chair out of the tenement house to the sidewalk. During the afternoon he had accumulated a puddle of sputum. Four little children, all public school pupils, were amusing themselves by dipping their fingers into the sputum and marking the flagstones. After a time, they found that daubing one another's faces was more exciting. Was it a job for the school physician, or for the health physician?

Case III.—A school pupil lived in a tenement apartment where an older child lay dying of tuberculosis. There was no actual want in the house, but there was an abundance of filth, neglect, ignorance and vice. The child who was not afflicted attended school and mingled freely with the other pupils. Was it a job for the school physician or for the health officer?

Case IV.—Several negro babies had been denied admission to the day nursery for a good reason. They were affected with congenital syphilis. Having been denied the day nursery they had been placed in the care of another negro family. An older boy in this family had been compelled by the truant officer to attend school. Was this a job for the school physician or for the health officer?

This case did not differ materially from the one preceding except in gravity. Interstitial keratitis is not unknown among the ailments of school children; and it is not always vicious in origin.

Case V.—In this incident three overgrown and mentally retarded girls figured. Two of them possessed unusual cunning of the animal type; the third, about nineteen years of age, had a sluggish intellect. She was in a class with pupils of eight and nine years, and was too stupid to do the work required of that grade. The three girls had planned a scheme to procure young girls for a number of boys employed in a part of the city that had an unsavory reputation. The quick wit of a teacher saved a horrible situation. Two of the girls were driven out of the city and finally lodged in an institution.

The worst part of the business concerned the third girl. It was decided that she was unmoral rather than immoral. She was therefore returned to school in

another class, on the plea that she was better off in school than on the street. Now, the classing of a pupil long past adolescence with very young pupils is a most unwise practice under the most favorable circumstances; but to place a half-grown adult of low moral development and animal tendencies among young children is a crime against nature. It was practically decided that the case was not one for the school physician, inasmuch as the latter took no part in the case.

Case VI.—This case involved a considerable number of very young children of foreign born parents. The children frequently came to school partly stupefied by liquor. A study of the cases showed conclusively that the children were neither immoral nor unmoral. The same was true of their parents; they were honest, well-meaning people who were very ignorant. In the land of their birth, the breakfast usually consisted of a piece of bread and half a cupful of wine. But the wine of the country is very mild as to alcoholic content—milder even than ordinary cider. It is grape juice that has merely reached the state of alcoholic fermentation. On the other hand, the California wine which they purchased in this country contains a notable proportion of alcohol, and a child cannot withstand its effects. Was this a case for the school doctor?

Case VII.—This case includes a score of pupils and it covered a period of several years. It is the case of pupils who collapse during the session of the school and require to be removed to the home or to the hospital. Long experience enabled me to diagnosticate such cases when the emergency call came. In the nine times out of ten it was due to one or the other of two causes—starvation or dope. Sometimes it was both.

In the foregoing cases—and they might be multiplied ad infinitum—there was usually the question, is it the school doctor's job? Frankly, such borderland cases do not come within the laws of most communities where the medical inspection of pupils is a state function. Perhaps it is better that they should not, for they are cases where tactfulness and common sense are more effective than medical skill. It is none the less necessary that such conditions be allotted, however, but material progress in their abatement will not be made until the communities themselves and educated to the plane where the many menaces to child progress are appreciated and understood.

THE CORRECT EXAMINATION OF A CASE OF SYPHILIS OF THE NERVOUS SYSTEM.

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Progress in medicine has been so rapid and so extensive in the last few years that the examination of patients has now assumed a much larger and broader scope. It is in syphilis, and especially in syphilis of the nervous system, that the greatest strides in diagnosis have been made. I want to call your attention to some of these newer methods and to outline in a systematic way all the necessary examinations which should be made before reaching a final diagnosis in cases of nervous syphilis.

In addition to the history, which should be long and detailed, a careful general physical examination should be made, and then a physical examination relating to the nervous system. This would, ordinarily, be considered a complete examination. It is, however, far from being so. In all syphilitic cases, the X-ray should be invoked, and the picture taken of the heart and aorta. The reason for this is that in many cases of syphilis of the nervous system, there is an involvement of the large vessels, especially the aorta, at the base of the heart. It is remarkable in how many of these cases the X-ray will disclose a marked shadow in that area.

Following this the laboratory should be asked to do a Wassermann reaction on the blood. This, however, is by no means all that should be required of the laboratory, even though it prove negative. By far, the most important test is that of the cerebro-spinal fluid. Every case of syphilis, every case of suspected syphilis, and every case of organic nervous disease, and many cases of functional nervous diseases should have a complete examination of the spinal fluid. All the various tests should be made of this fluid, and especially the colloidal gold test. The importance of these various tests is that each serves as a check on the other, and each serves to corroborate the presence or absence of any infection. Many cases will show a negative blood Wassermann and yet reveal a positive Wassermann in the spinal fluid. The proper conclusion to be drawn from this fact is that the substances which produce the Wassermann reaction are not present in sufficient numbers in the blood to cause that reaction, but are present in

sufficient quantities in the spinal fluid. It does not mean, necessarily, that the patient's spinal fluid alone is infected and not his blood. It does mean that his spinal fluid is infected to a greater extent than his blood. It has often been proven that later on in the same patient the negative blood will become positive. It may mean of course, that one is infected and not the other, or that both are infected so that the bodies producing the Wassermann reaction are not present in the blood.

Again, it should always be borne in mind that the technique of the particular laboratory involved is a factor in these tests. I have from personal experience had diametrically opposite reports given me from different laboratories. This is not necessarily a reflection on the laboratory or on the individual who does the test, rather does it arise from the fact that there is no standard for the Wassermann reaction. It is, therefore, wise and best in all doubtful cases, and in those cases which can afford it, to have Wassermann reports made from at least two different laboratories.

The value of the colloidal gold reaction is probably greater than all the other tests of the spinal fluid. Its value lies in its ability to prophesy the future outcome of the case. It may generally be relied upon to give a normal curve, a curve typical of syphilis known as the luetic, a paretic, or a meningitic curve. More than that should not be expected of the gold test.

The number and character of the cells is of vital importance. It is not possible now to say, as once was done, that a certain number of cells means a certain form of syphilis of the nervous system. All that we can tell from the cell count is that a large number of cells indicates an acute process and a smaller pathological number indicates a sub-acute process. Normally, there should be from six to ten cells. If the number exceeds the physiological limit, the assumption is that there is a meningitic process, that is to say there is a process due to irritation of the meninges, but whether this process is syphilitic, or otherwise, it is impossible to say. The character of the cells is important. Plasma cells indicate a specific process, as does a marked lymphocytosis.

There is still one other laboratory test. It is not nearly so important as the preceding and it does not prove true as often, therefore neither the clinician nor the laboratory man attribute to it sufficient im-

portance and value. This test, which is known as the luetin test, is, however, one which should be made in every case of syphilis of the nervous system. It is rare to find the luetin test present when both blood and spinal fluid show a negative Wassermann, but as I have known this to occur in one instance, I feel that it may do so in others. The luetin test consists of injecting hypodermically, under the skin, a solution of dead spirochete. At the end of five days, if the patient has syphilis, there should appear at the site of the injection, a small red spot. There is no contra-indication to the luetin test. It often will serve as merely corroborative evidence of syphilis, but it might in some cases prove to be the only evidence. I know of an instance in which the blood Wassermann was negative, and owing to the objections on the part of the patient and family, it was impossible to take a spinal puncture. Therefore it was only when the luetin test gave positive results that a tentative diagnosis became an assured one.

It is important in examining a suspected case of syphilis to make a thorough examination of the heart and also to make repeated readings of the blood pressure. There are many cardiac conditions directly due to syphilis. Many of the cases of leaks in the aortic valves are the result of syphilis, whereas those in the mitral valves are rheumatic in origin. If, therefore, the patient presents the murmurs and physical signs typical of an aortic lesion, it is wise to suspect syphilis. The blood pressure is almost invariably raised in syphilis and therefore careful and constant readings should be made. Both heart and blood pressure examinations will not only serve to corroborate the presence of syphilis in patients, but, in doubtful cases, will make the diagnosis more evident.

Finally, I want to emphasize the fact that syphilis of the nervous system is constitutional syphilis, and that, therefore, every method of examination which applies to constitutional syphilis ought to be followed in diagnosing a case of syphilis of the nervous system. This means that a careful analysis should be made of the fluids of the body, a careful clinical examination of all the organs and reflexes of the body, and that such things as the skin, mucous membranes, and glands should be examined. It is well to bear in mind that many cases which are doubtful will, with a careful examination, prove to be positive and definite cases of syphilis. It is also well to bear in mind

that a large majority of cases of nervous diseases are syphilitic in origin, and therefore, the examiner should err on the side of considering a new patient as specific.

Cases that are doubtful should always be given a so-called provocative dose of salvarsan. This means that by giving one dose of salvarsan to a patient with a negative Wassermann and suspected syphilis, that the Wassermann reaction will probably become positive. The reason for this is that the spirochetes may be old, and if so may lie latent in the blood vessels or sleeping in one corner. The administration of the salvarsan limited to one dose is not sufficient to kill, but to a slight extent poisons them and stimulates them to action and causes them to come out of their corners into the main blood stream.

It is only after all these tests have been made, after a complete history and physical examination, together with an X-ray picture, a blood pressure, and laboratory tests, that it is possible to reach a conclusion in diagnosing syphilis of the nervous system. One cannot be too careful and I cannot too strongly emphasize the importance of the lumbar puncture together with its various tests.

Early Vaccination of the Newborn.—Wurtz (Bulletin de l'Academie de Medicine), states that the French laws recommend waiting three months before vaccinating a child at the breast. Pinard, however, has long been a partisan of immediate vaccination, deeming it better to take the risk of nonsuccess than to delay the procedure. Recently an unvaccinated child two months old succumbed to smallpox in Paris. Tissier in 1904 published a paper based on statistical data from which he concluded that the chances of nonsuccess at birth are greater than two or three weeks later; inherited immunity rapidly becomes attenuated at the expiration of this period. Yet Tissier, in common with other accoucheurs of the Paris hospitals, himself practises and advocates early vaccination of the new born. Exception is made in cases of congenital debility, skin affections, etc. Bonnaire, having witnessed a case of death from hemorrhage after vaccination of a newborn child, waits until the eighth or tenth day. Wurtz advises that the official recommendation as to time of vaccination be altered to read "all children over ten days and less than three months old."

THE HOMIRGADE THERMOMETER AND ITS ADAPTATION TO GENERAL USE.

By F. E. Aspinwall, M. D., LaGrange, Ky.

Two hundred years ago, it is said, Fahrenheit supposed he had determined the "absolute zero" and accordingly placed the zero of his scale near the lower margin of normal winter cold. Later experiments, however, exposed his error, yet the use of his out-of-gear scale continues, as does the search for the unprovable, if attainable, so called "absolute zero," the phantom of temperature research. Up to the present time neither the greatest heat nor the greatest cold, or exhaustion of heat, is known to science, and the determination of either seems incompatible with the idea of the infinite, and is beyond the interest of busy mortals.

To meet present requirements a thermometer scale must be absolutely fixed and adapted to thermometry of the utmost precision. It should also count its degrees from the freezing point, the great dividing line of nature, the point in exhaustion of heat that marks the complete cessation of vital action in any organism or part thereof in which this temperature is reached. The degree or unit of measure of the scale should also be of a definite and clearly understood value as is, for example, a United States coin.

The latter idea is entirely new in thermometry, yet the Homigrade thermometer embodies it and meets all other requirements. Its two fixed points are the melting and boiling points of water, the same as those of other thermometer scales. The former is commonly called the freezing point, the freezing point of water until recently having been regarded as identical with the melting point of ice, but now regarded by some thermometrists as about one thousandth degree below the latter point, almost too small a difference to mention.

In the Homigrade system the freezing point is also the vital heat zero and zero H. appropriately expresses it. By the time the freezing point is reached in any organism or part thereof all vital action therein has ceased, and its functions are resumed, if possible, only after its temperature is raised sufficiently above the freezing point. Hence is seen the propriety of measuring animal heat from the freezing point and not from any point below, as in the case of the Fahrenheit thermometer. Below freezing temperatures are all minus or negative values,

corresponding to the debts of a person or corporation.

270 deg. H. expresses the boiling point, and as recently stated in an article in the Medical Record this figure was chosen because of the consequent well fitting figures at other important points in the scale, and especially at that of the human normal, 100 being at this point. 100 deg. H. therefore expresses the full human normal within the radius of common sensation, and as the measure is from the freezing point and includes only positive values, each degree in this scale equals one per cent. of the human normal. Hence every degree and every figure in the Homigrade scale has a definite and instantly understood value. In this system the human normal is the unit of value, and every figure expresses both a definitely understood measure from the freezing point and a true percentage of this normal, which latter feature is exactly in line with the natural tendency of man to make his own normal the measure and criterion of temperature values. In all other systems of temperature measurement the human normal is a mere incident and the values of their measures are not apparent. Their scales are mere figures in rotation, which figures impart no clear ideas of their values. True, the Centigrade degree equals one per cent. of the boiling point, but as the boiling point is far beyond the recognition of any human sense it is one per cent. of an unknown quantity. In contrast is the Homigrade degree equaling one per cent. of the human normal, which to humankind is the best known temperature and natural unit of values. In fact the Homigrade system gives the best possible conception of the boiling point by showing it to be 270 per cent. of the human normal.

The beauty and perfection of the Homigrade system are further shown in its exposition of the seasonal normals. No such ideal division of the seasonal temperatures has heretofore been attempted. Note the fitness of the following figures: Spring 0 deg. H. to 50 deg. H.; Summer 50 deg. H. to 100 deg. H.; Autumn 50 deg. H. to 0 deg. H.; Winter 0 deg. H. to minus 50 deg. H. Every season is thus shown to have a normal range of exactly 50 Homigrade degrees or 50 per cent. of the human normal. Spring and autumn normals are included in the first 50 Homigrade degrees above freezing, with unseasonable cold below 0 deg. H. and unseasonable heat above 50 deg. H. Summer temperatures range through the second

50 degrees above freezing, the upper limit being identical with the human normal, unseasonal temperatures being below 50 deg. H. and extreme heat being above 100 deg. H. Winter temperatures are all freezing temperatures, and minus values, ranging from 0 deg. T. and extreme cold below minus 50 deg. H. Thus is given the clearest possible conception of the range of each season's temperatures, and it is a satisfaction to know the exact point at which the changing temperature passes from the normal of one season to that of another. And note that the custom of referring to high summer temperatures in terms of 80's, 90's, etc., will not be disturbed by adopting the new scale, while the Centigrade 20's and 30's would not seem appropriate for summer heat.

Consider also the Homigrade exposition of the human normal and departures therefrom as follows:

Normal.

100 deg. H.

Subnormal.

95 deg. H. Moderate.
Safe.
90 deg. H. Low.
Dangerous.
85 deg. H. Very Low.
Total.

Supernormal.

105 deg. H. Moderate.
Safe.
110 deg. H. High.
Dangerous.
115 deg. H. Very high
Total.

The above figures indicate instantaneously in each case the exact percentage of the departure from the normal. And be it noted that a 15 per cent. departure either above or below normal may usually be regarded as fatal, the temperature having been taken, preferably in the axilla, when there has been no unusual exposure to either heat or cold. No such ideal and expressive figures are possible in any other scale. The Medical Brief refers to the above disclosure as "a fundamental innovation in scientific diagnostics."

Note also how ideally the Homigrade figures express the usual bath temperatures: 50 deg. H., cold; 60 deg. H., very cool; 70 deg. H., cool; 80 deg. H., tepid; 90 deg. H., warm; 100 deg. H., very warm or normal; 110 deg. H., hot; 120 deg. H., very hot. Temperatures below 50 per cent. of the human normal are too cold for general use, tepid or warm being generally preferable for a full bath.

Ideal indoor temperatures range from 50 deg. H. to 60 deg. H., or through the first 10 degrees of summer heat. And so it is throughout the scale and wherever used, the Homigrade figures fit as do those of no other scale. And be it understood that every user of the Homigrade

thermometer gets the benefit of its ideal scale in a better understanding of all temperatures than is possible by the use of any other thermometer.

In order to avoid the very common error of omitting the minus sign where it should be used and assist in the quick and correct reading of temperatures all Homigrade thermometer figures below freezing are placed to the right of the tube, while those above are to the left of the tube. The subdivision marks to the left of all freezing temperature figures are each equivalent to the minus sign and an ever present reminder of the negative value in that part of the scale. Also, in the Homigrade clinical thermometer the figures expressing subnormal temperatures are placed on the opposite side of the tube from those expressing supernormal temperatures. These are exclusively Homigrade features that aid materially in the correct reading and recording of temperatures.

The ratio of the Homigrade degree to the Fahrenheit is exactly 1.5 to 1, thus rendering the conversion of the figures of one scale into those of the other exceedingly easy, and annulling most of the objection to the introduction of the new scale. Absolutely no confusion of values and very little trouble will result from its introduction if due care is exercised in reading and writing the temperature, the latter including the correct use of the minus sign and the initial of the scale. This is simply the same care that is necessary regardless of the scale that is used. The advantages to be gained by the use of the new scale far outweigh the slight trouble necessitated by the change. Fahrenheit figures give no conception of the values for which they stand and their conversion to Homigrade is the only way to derive a realizing sense of their values. As stated above, this conversion is quickly accomplished, as follows: Multiply the exact number of Fahrenheit degrees above or below freezing by 1.5. Thus 72 deg. F., the ideal office temperature, is 40 Fahrenheit degrees above freezing. Hence 40 multiplied by 1.5 equal 60 deg. H. Dividing any Homigrade figure by 1.5 gives the exact number of Fahrenheit degrees above or below freezing. Thus 27 deg. H. divided by 1.5 equal 18 plus 32 equal 50 deg. F. The 32 is here added because the Fahrenheit measures begin 32 points below freezing, which feature renders that scale absolutely absurd and unintelligible, its figures in no way expressing the values for which they stand. Hence records of tempera-

ture in the Fahrenheit scale are notoriously dry reading, while those of the Homigrade thermometer are interesting beyond any heretofore known because of the new light they shed on temperature values.

AN UNPRECEDENTED OPPORTUNITY FOR WOMEN.

By Emma Wheat Gillmore, M. D., Chairman
Committee of Women Physicians General
Medical Board, Council of National
Defense.

The same year that gold was discovered in California, a lone pioneer received the first medical diploma which the United States had issued to a woman. Other colleges shortly followed the example of the one which had opened its doors to Elizabeth Blackwell, and today over fifty co-educational medical schools admit women upon the same terms as men.

There are more than 25,000 American physicians in military service at this writing, and the Council of National Defense is undertaking, through the Volunteer Medical Service Corps—an organization which has President Wilson's approval—the task of classifying the qualifications of ninety thousand more. Of these, about six thousand are women, less than one-third of whom have registered with the General Medical Board.

Women of the profession, unless our qualifications are standardized and on file, can you not see that we are an unknown quality and quantity as far as the Government is concerned? In spite of the overwhelming difference in number—6,000 women and over 100,000 men—and regardless of the fact that over twenty-two centuries have passed since Hippocrates wrote the immortal Oath and only sixty-nine years have elapsed since women entered the medical profession, the Volunteer Medical Service Corps has invited them to membership with the same impartial cordiality as it has the men.

During the last week in August application blanks for the Volunteer Medical Service Corps were mailed in franked envelopes to all legally qualified men and women in the United States who were not already in Government Service. Presumably a number of women have been overlooked because many of them are not members of medical societies, but this will speedily be corrected if a notification of the omission is sent to the Volunteer Medical Service Corps, Council of Na-

tional Defense, Washington, D. C.

Meanwhile, medical women who possess a vision will see in the Volunteer Medical Service Corps an incomparable method of organization which will register their qualifications and place them in an identical coded class system with men physicians. This Corps is in reality an ideal procedure for mobilizing the military forces of our country for selective medical war service. Incidentally it will place loyal and patriotic medical women by the side of those men who are willing to give themselves. Even though all of them are not elected to membership, their names will be on file with the Government as willing to serve as far as their strength and capability will permit, and no one can point a finger at them and say "slacker."

Will a page be turned over in the history of American Medical Women upon which will be written the qualifications of 6,000 of them, matching that group of English physicians known as the Scottish Women's Hospitals, which was so perfectly organized that they were able to hand over to their Government a constructively organized body of professional women for military service? Or shall we continue, as we have done in sporadic groups for the past 69 years, to demand recognition of men and at the same time neglect to unanimously affiliate with them in recognized medical societies, and to withhold our influence both with pen and vote when medico-social and medicopolitical and medico-scientific issues are at stake which shake the very foundation upon which medicine rests?

The body politic of the civilized world holds a prominent place for the profession of medicine in the near future. Are we to have a hand in shaping it? The Volunteer Medical Service Corps is big with promise for women of the medical profession if we take advantage of it to put ourselves on record. The response which the Council of National Defense receives from women who apply for membership will tell the tale as to whether they have or have not grasped and taken advantage of the unprecedented opportunity which this world's war for Democracy has opened up for them through the medium of the Volunteer Medical Service Corps.

Functional Heart Tonic.—Bowen has used Cactina Pillets with much satisfaction in functional cardiac disturbances. One to two Pillets every 2 or 3 hours will promptly steady the heart.

Delayed Primary Suture.—Ball, in The London Lancet, says that the ideal method of treating a wound after cleansing and excision of damaged tissue is primary suture, but that there are conditions which render this method impossible and in such cases it is most desirable to practise the so called delayed primary suture. In order to bring the desirability of this method of treatment to the notice of surgeons the author presents his own results in a series of 100 consecutive cases. Among the 100 cases there were fifty-nine complete successes, twenty-six partial successes and fifteen failures. A partial success was recorded when there was any stitch suppuration or an opening of the wound without suppuration. An adequate primary excision of the wound is essential as a prerequisite of delayed primary suture. Those wounds, which on the removal of the packing have a dry or slightly moist surface and are free from pockets of pus or unexcised damaged tissues, are suitable for delayed primary suture. Suture should be carried out on the second to fourth day from the receipt of the wound. A dry, clean wound should be sutured without being touched, but a moist one should be washed out with an antiseptic. Old or fresh blood should also be washed from the wound before suture. Before removing the wound packing the skin must be scrupulously cleansed with ether and some antiseptic, preferably two per cent. picric acid in alcohol. All dead spaces must be obliterated, for which deep sutures of catgut or thread may be used if required. Fascia or the muscle sheath should be sutured over muscle if possible. Where there are fractures as many tissues as possible should be drawn together over the break. The skin should be sewed with silkworm gut. Every wound should be completely immobilized by splinting, plaster, extension, or other suitable means. The skin sutures generally should be removed on the eighth day, but may have to be left longer. The method has many advantages among which are: The greatly increased rapidity of healing, the average time having been less than ten days; the shortening of the period of healing even in the cases which are only partially successful; the avoidance of large and deep deforming scars; the conversion of compound into simple fractures; and the avoidance of many painful dressings. The criteria for the selection of wounds suitable for delayed primary suture should be the clinical appearance of the wound, not its bacteriological cleanliness.

Transfusion with Preserved Red Cells.—Robertson (British Medical Journal), uses the method of preserving human red cells which was described by Rous and Turner. The blood is obtained only from donors of Group IV and is drawn directly into a mixture of a five and four tenths per cent. solution of glucose with three and eight tenths per cent. solution of sodium citrate. These solutions are used in the proportions of 500 mls of the isodextrose and 350 mls of the isocitrate for each 500 mls of blood. After the blood is drawn it is mixed with the solutions, stored in the icebox and allowed to settle. By the end of about four days the red cells will have settled to about 800 to 900 mls and this portion can be used after siphoning off the supernatant fluid. Smaller amounts of blood may be also drawn and kept in readiness. In every case when a transfusion of the red cells is to be made the desired volume is taken and made up to a total bulk of one litre with a two and five tenths per cent. solution of gelatine in normal saline. The transfusion, as well as the collection of the blood can be carried out easily by one physician with the aid of an attendant. The blood cells thus obtained can be preserved and used up to about thirty days after their collection. They can be transported readily and blood thus becomes available for use in emergencies near the front. Blood collected and preserved in the manner described was used by the author for twenty-two transfusions in twenty patients. The blood varied in age up to twenty-six days, and the age did not seem to have any influence on the results obtained. The patients selected for its trial were such as would have died without transfusion, yet such as offered some hope of recovery if it were done. Of the twenty transfused eleven were discharged to the base in good condition and nine, or forty-five per cent. died. All of the patients who died, however, showed the immediate stimulating effects of the transfusion. The effects of giving this preserved blood were quite as marked as those seen in direct transfusion and the method offered many advantages over the direct. Thus it was possible to prepare for emergencies by having a supply of the preserved blood on hand, the blood could be transported, the transfusion became a simple injection which one man could make, operating theatre room was economized as the transfusion could be given at the bedside, and finally the time saved was of great value, especially under rush conditions.

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WHY BE PREJUDICED?

It is a well known fact that there have been prejudices within the medical ranks since its history began. One notable instance is that of the reception of the theory of the circulation when it was brought forth by Harvey. Many other instances might be brought forth, illustrating the jealousies and prejudices of following generations of medical men, who were not willing to accept ideas that were not according to their pre-conceived notions, or what they thought could not be proven to their satisfaction.

Prejudice and jealousy go hand in hand and it might be said that the latter sires and fosters the former. However prejudice arises, it is encouraged by misunderstanding and ignorance, as well as jealousy.

Ignorance in certain lines might be condoned, where the fault is due to the earlier regulations and teachings of medicine, owing to faulty collegiate requirements and the subject has been allowed to practice medicine under those conditions, but not in the present day with all of its advantages of education. No physician of the present day can excuse himself by pleading ignorance of the great advances made in medicine, for this would at once convict him. Literature is teeming with the advances, and no man is too busy to at least partly keep in touch with these progressive ideas that are constantly appearing.

Open-mindedness is an essential to great-mindedness. No one can be truly great who is narrow minded. It behooves us all to look within ourselves and take the measurements of our minds as to their relationships to others. Because someone thinks differently or practices medicine in an entirely different way from another, does not brand that one necessarily as a quack or charlatan. It is only fair that he should be so proven, before condemning him.

The practice of medicine is changing

so rapidly these days that one must be guarded in his statements concerning the other fellow—he should investigate his methods and results before subjecting him to denunciation. This leads up to what is intended by this editorial, the subject of physical measures, and particularly electro-therapy, a subject of much prejudice in some localities, but one which is now “coming to its own” owing to its use in the war countries. Modern therapy cannot be confined to the use of drugs, for the people will not stand for it, nor will the profession in general, with all the advances made in the various lines other than that of drug therapy.

The use of electricity in the treatment of the various ills of mankind has shown such wonderful results that it has its place in medicine fully proven. The fact that scientific physicians have become devotees to its use is sufficient warrant to place it beyond prejudice. We must not hold against it that it was used in the past by chalatanes. They used it because the profession in general were not wise enough to take it up and perfect it. Had the colleges done their part in the past, the history of electro-therapy would have been different. Quackery in such practice can well be laid at their door.

From early days the neurologists have used electricity in the treatment of nervous diseases. Unfortunately they have not kept up to the times in the advances of modern electro-therapeutics. In the present day, with a few exceptions, they decry the use of the modern currents, keeping to the use of the constant and faradic types almost exclusively. While these have their uses in many ways and are not to be excluded, there are currents such as the static, high frequency, and sinusoidal, that have come to the front and have proven their value to the satisfaction of a large number of scientific physicians. By their use far better results can be had than by the use exclusively of the first two mentioned currents.

Numerous conditions that have been benefitted by the use of electricity properly applied could be mentioned were there space for this, but this must be left for future articles, and would be out of place here. The object of this editorial is rather to bring to the attention of the profession the fact that prejudice should not be allowed to hold in its ranks, for as a profession, we should be far above such petty things. We have it within ourselves to make it the highest type of altruism. May the medical millennium be not afar off!

M. M.

PLURIGLANDULAR ORGANO-THERAPY.

Perhaps the latest and what promises to be one of the most efficacious therapeutic moves yet advanced, when properly manipulated, is the combination of active substances or entire organ of the various glands concerned in the "ring" of internal secretions.

One would hardly be able to claim however, in its present form, that this "shot gun" therapy is truly scientific or devoid of danger even.

Let us stop for a moment to consider the powerful influence manifested by each individual gland upon metabolism in general—the influence of one gland upon others in the "ring"—and the possibilities lying in the production of a disordered balance, we can readily see that so-called "empirical organotherapy" had better be termed "haphazard organotherapy" potent for harm. In fact, it is not improbable that the claim of a certain writer* that "such chemical drugs as iodine, which act evidently through their influence in endocrine glands," may have some bearing upon the origin of diseases other than those indicated specifically by endocrine dyscrosia. Other writers have claimed that table salt unknown to savage tribes was responsible for the appearance of diseases also hitherto unknown. Cancer, for instance "was unknown to savage tribes until advent of the white man." He gave them salt it is true but he also "gave them syphilis." Did the syphilitic toxin cause glandular dyscrosia. Let us say thyroid dyscraasia—or did the iodine (which acts evidently under thyroid supervision) so disorder the balance of his internal secretions that normal control of cell metabolism was lost and disordered embryonic cell proliferation was permitted?

If our endocrine glands are—and we know that they are—forcibly influenced by toxic conditions—even to the point of complete exhaustion, with inhibition of function, isn't it reasonable to suppose that their balance properly maintained may be the source of our anti-toxins? If so aren't we "flirting with danger" when we take a chance on further upsetting this balance by indiscriminate organotherapy?

When we find symptoms of glandular disorder would it not be better to try to locate the gland at fault and use specific treatment? In all probability establishment of proper conditions within the glands, or the quality or quantity of its

secretions will show that symptoms referable to other glands were merely secondary. To one capable of tracing the origin of such diseases a careful family history is invaluable. This carries us back to the old subject Heredity to which so many diseases owe their origin. We would like to go into this a little deeper but as space forbids we must make this the subject of another writing.

"APPENDICITIS IN PREGNANCY."

In carefully noting a complete history of ones confinement cases, you will find that many pregnant women complain of pain in the region of the appendix, and it is possible that the uterus as it rises and enlarges in the abdomen draws on complicating peritoneal adhesions, or as noted after the mid-period of pregnancy one out of nine women have a more or less recurrence of pain in the right side of the abdomen; this is almost always in some relation to McBurney's point, and may be due to the dextro-torsion of the uterus, throwing the right tube and ovary forward—with a resultant compression of these delicate organs between the utero-abdominal walls. Women who have had appendicitis operations almost always complain of dragging pains, especially from the fifth to the eighth month.

Primary appendicitis is very rare in pregnancy, but recurrent disease is not. The earlier in pregnancy appendicitis occurs, and the sooner it is recognized, so much better is the prospect. Pregnancy favors the rapid development of appendicitis, and pus may be found in the pelvis in a very short time.

Labor is very painful; the shock of it is greater and because of the diseased uterine muscle (contagious to an abscess) weaker pains in all three stages are observed. And during labor, the contracting uterus may rupture the pus-sac, or tear an adherent or perforating appendix, giving us general peritonitis.

In the puerperium, the worst influence is shown when the diseased appendix forms adhesions to the tube or uterus, direct transmission of the infection being thus effected, either through the walls of the applied organs, or along the surface, or through the blood. A parametritis may develop. The involuting uterus is one of molecular disintegration and therefore sepsis easily can be brought about. In the puerperium, acute appendicitis is easily mistaken for an infection of the tubes or Broad Ligament, and indeed they may coexist. The appendiceal

disease is often aggravated by the puerperal process. Manual or instrumental removal of the placenta is more often needed and such brisk manipulations spread the pus.

The relics of appendicitis may anchor the uterus in an unfavorable position, may occlude the tube, producing sterility or favoring ectopic gestation.

Diagnosis.

If the pains and frequent indispositions which usually accompany the pregnant state are not promptly interpreted, the primary clinical picture of appendicitis may be recognized only when the more serious phases of the disease have manifested themselves. Before any pus formation has taken place, the pulse and temperature may show little or no change. The pain is usually located in the epigastric region, and remains there until the disease has reached the stage when all pain ceases. Even in an advanced pregnancy, a readily recognizable rigidity of the right rectus is seldom encountered, and only exceptionally does palpation reveal a tender spot over McBurney's point. Nausea and vomiting count for naught because they are frequently associated with the toxemia of pregnancy.

In the early weeks of pregnancy, the woman has more or less nausea and vomiting, she has more or less abdominal discomfort, she probably has some leucocytosis, especially if a primipara, and on account of the toxemia she has some frequent epigastric pain.

The primary pain of appendicitis in the pregnant woman may be in the epigastric region, rather than at McBurney's point.

The presence of leucocytosis in pregnancy is an indication to the doctor to look out for complications. There is the so-called "physiologic leucocytosis of pregnancy." Why? It is a reaction against the toxemia of pregnancy.

Possibilities of error in the Diagnosis of these cases.

(a) Tubal Tuberculosis.

In this condition an almost exactly similar attack of acute abdominal pain and vomiting, with fever, occurs as in an acute appendicitis attack. There is also an accompanying enlargement of the uterus, the result of tuberculosis of the endometrium, more or less induration in both fornices, and a history of amenorrhea. Abderhalden is negative.

(b) Pyelo-ureteritis.

This is a common condition during pregnancy, owing to the stasis of urine and the bacteriuria; whereby a pyelou-

reteritis is easily set up; but the infection may occur through the blood, through the lymph from contiguous structures. The acute form makes its appearance with chill, fever, pain in the back and along the ureter; dysuria, increased frequency and vesical tenesmus; the kidney is sometimes palpable and tender. Pain goes down from kidney along the ureter, vomiting is rare; tenderness in the lumbar region and along course of the ureter. No marked abdominal rigidity; irregular fever and usually not very high; no tympany or tumor; urinalysis is conclusive; revelations of the cystoscope; thickened tender ureter by vaginal examination.

(c) "Coli-bacillose gravidique."

In these cases the patient has symptoms of ureteritis, appendicitis, and cholecystitis all at once, and the colon bacillus is found in the urine. Premature labor frequently results from this infection.

There are no special difficulties in the diagnosis, if the possibility of its occurrence is only kept in mind.

Ectopic Gestation, twisted ovarian cyst and ureteral stone, and must be carefully considered, as well as the above conditions.

If an attack of appendicitis occurs late in pregnancy, in consequence of the intense congestion and lymphatic engorgement and the increased intra-abdominal pressure, it is likely to be very severe with early perforation and a virulent peritonitis.

In the 3rd or 4th month of pregnancy the intestines and omentum have been pushed up by the growing uterus out of the field where they protect the caput coli, and so cannot encapsulate and care for the inflamed appendix. Therefore there is a marked tendency to the development of a fulminant appendicitis. An equally serious condition, however, consists in the presence of micro-organisms floating in the patient's blood into which they have escaped from the appendix. In the ordinary case of acute appendicitis complicating pregnancy, however, abortion or miscarriage is very liable to occur, and when it does, the presence of the pyogenic-organisms in the blood assumes an overwhelming importance. An infection at the site of the placental attachment in the uterus develops, and a fatal termination is the usual consequence. Perforative and suppurative appendical peritonitis in pregnancy are much more serious than in the unimpregnated. Why?

(1). Protective adhesions are less likely to be formed.

(2). The inflammation is more stormy owing to the intense vascularity of the parts.

(3). Thrombosis and Phlebitis are commoner.

(4). Suppuration takes place higher in the abdomen. (This is true of late pregnancy), which position is less resistant.

(5). Drainage is less free, owing to the large uterus nearby, and the abscesses burrow deeply in all directions.

(6). Tympany compromises the respiration sooner.

(7). Obstructive symptoms arise earlier.

C. W. D.

A FIVE MILLION ARMY MEANS FIFTY THOUSAND MEDICAL OFFICERS.

With an army of three million men in the field or in training and as contemplated, an expansion of this force to five million men, the Surgeon General must have in the Medical Reserve Corps at least fifty thousand doctors.

The Medical Corps must keep a pace in growth with the army expansion and it behooves every doctor in the United States between the age of 21 and 55, who is physically, morally and professionally fitted, to arrange at the earliest possible moment, his personal affairs so as to offer his services to his country in the capacity of a medical officer.

The United States is in the war to do her part in winning the struggle and this can only be accomplished by a large and well trained body of troops adequately cared for by sufficient number of medical officers. The importance of the doctor's service and its relation to the successful outcome of the war cannot be under-estimated.

As the mobile forces increase in size, so is there an expansion of Base Hospitals and other institutions for the care of the sick and wounded and there should be no lack of officers when required to give to our patriotic boys, that professional attention which is so essential.

It is well for the medical profession of the United States to realize at once that a Medical Reserve Corps of at least 50,000 doctors will be required to meet the demands of the Surgeon General and upon which Corps he can draw for his medical officers.

We believe by this time that the profession of this country must be fully alive to the needs of the Service, so let every doctor who is qualified, feel that he is

doing not only his patriotic duty in offering his services as a medical officer, but is relieving the tension of the Surgeon General's Office by placing at the command of the Chief Officer of the Medical Department an adequate force without the frequent beating of drums to supply the necessary number with each increase of the mobile forces.

If you have not already received an application blank for commission in the Medical Reserve Corps, your nearest examining board or the editor of this Journal will be glad to supply you.

PHYSICIANS AND THE HARRISON ANTI-NARCOTIC LAW.

As the Charlotte Medical Journal has on various occasions pointed out, there is a grave responsibility resting on the members of the medical profession in the matter of the prescribing of opium and its derivatives along with allied narcotics. This responsibility, instead of decreasing with the passing of time, is constantly increasing, until today the problem of the correct attitude to be taken, and consistently maintained by all self-respecting physicians of North Carolina and other states as well, is positively a greater and more menacing question than it was several years since when avenues for the possible securing of various alcoholics served as vicarious eliminants through which much of the annoyances of physicians from patients passed.

The constantly increasing rigor of alcoholic prohibition, with possibly unchanged tastes on the part of the great majority of former Bacchan devotees, is daily making larger than ever before the number of individuals who seek relief in some form of narcotic other than the liquor of some years ago. Hence there can be no question that the number of users of narcotics is increasing rapidly as the devotees of alcoholics decrease.

The demands made upon medical men by poor weak suffering humanity can not possibly be appreciated by any person who has not had the actual experience of being begged daily by the unfortunate habitues whose importunities, if it were only possible to do so, would if placed before the personnel of any legislative body of human beings on earth, result in the making of some arrangement whereby provision would be made for one of two things. First, provide some place and method whereby narcotics, alcoholics or opiates, could be made available to those whose systems were manifestly

suffering for lack of the same. Second, not deeming this wise or safe, then providing for the care and custody of all such persons, who in every community daily pester and importune the physician for opiates, with a place for his or her treatment until the craving, if possible, be relieved.

The burden and worry of these unfortunates is one peculiarly carried by the average practicing physician, and it weighs on the sympathies and the conscience of all such to know definitely just what is best to pursue in the cases daily coming under their observation. The prominent specialist, devoting his labors to a special line of medicine, and not becoming intimately conversant with the masses of people and learning their life secrets as does the doctor who habitually cares for their ailments, the various leading medical men who shape and influence sentiment from positions of exaltation as consultants, or those strong and able-minded men who grasp and wrestle mightily the vital health problems of the day. These classes of gentlemen, whose opinions are far more often heralded abroad as the best thought of the medical profession, are unfortunately possessed of scant opportunities for knowing personally of just what conditions do actually obtain as regards the insistent demands daily made upon the average general practitioner.

The near approach of nation-wide prohibition of alcoholics naturally render the situation more intense, and it is manifest to any physician in close touch with the real life of the masses of the people, that the difficulties and annoyances of the average doctor of medicine will in the next year or two continue to grow more burdensome. What the ultimate end may be, it is difficult to presage. Will the physiologic tire of humanity which for generations has been periodically and persistently demanding rest, composure, narcotization of acutely disturbed nerves, meekly respond to legislative enactment and subside into innocuous desuetude?

That such may take place would be appreciated most of all by the physician now so constantly called upon to minister to these human insufficients, but will such beneficent results accrue?

Meanwhile as we pass through this interesting space of human activities, let all self-respecting physicians remember that the federal authorities have recently been checking up the sales of opium and its derivatives along with that of allied drugs, in the various sections of the

country, and in all probability within a short time two steps will be taken by the U. S. Government to improve, or at least to change existing conditions. One will be to prosecute in the federal courts a surprisingly large number of medical practitioners whose sympathy has caused them to violate the law in the prescribing of narcotics, the other, to revise and rearrange the provisions and the penalties of the Harrison anti-narcotic law. As to the manifest duty of physicians, there can be no question. Comply with the law and avoid permitting misguided sympathy for these unfortunates to cause the writing of a single narcotic prescription when it is illegal to do so. The law of the land is supreme, and none may or should attempt overriding it. Such a course is unwise, unsafe, unsane, unpatriotic, and above all, not right.

THE COMING ASHEVILLE MEETING OF THE SOUTHERN MEDICAL ASSOCIATION.

More and more with the passing of the years are the people and medical profession realizing that in the wondrous climate of Western North Carolina exists one of the most valued climatic resources possessed by this or any other nation. Each winter finds in constantly increasing number, thousands of health and pleasure seekers avoiding the chilly blasts of the wintry North, alike regaining health and finding pleasureable experiences amid the beautiful mountains of the Old North State; while in the glad-some summertime every available hotel, home, bed and cot, in this peculiarly God-favored section, is made use of in the caring for of the tens of thousands of visitors from all over the South and embracing the favorable opportunity of combining the quest for physical betterment, and as well, the joys of social life, in this genially temperatured region.

The Southern Medical Association, that potential aggregation of some thousands of the choicest medical spirits of the South, under the able leadership of its talented president, the erudite and courtly Lewellys F. Barker of Baltimore, has chosen most wisely in selecting Asheville, N. C., as the place of annual meeting November 11-14, 1918. Asheville is the center and distributing point for the numerous other attractive nearby places of resort, Hendersonville, Biltmore, Black Mountain, Waynesville, Hot Springs, Balsam, Weaverville, Junaluska, Ridgcrest, Tryon, and fully a dozen

other points of attractions within a radius of less than forty miles. Asheville is the queen diamond in the Hygeiataras, and is easily one of the most readily reached, and beautifully situated of American cities. On an elevated plateau of a few miles square, at an altitude of two thousand feet, nestling amid more than sixty peaks varying from 2,500 to 6,000 feet in height, lofty in its own setting and yet protected from chilling wintry blasts, in land of verdure and rich foliage, in the golden gleam of the sunny autumn days with the opulent colorings of leaf seen on every hand, Asheville will indeed be to all doctors and their families fortunate in getting there truly a Mecca of delight and joy. In ample hotel accommodations of high grade no city on the continent of similar size surpasses, if equals Asheville, and from a cultured and far above an average local medical profession, awaits a generous and royal southern welcome.

The local arrangements will be cared for in a way to please all, while the chairmen of the several sections have diligently pursued their activities in a way calculated to ensure a complete and a varied program in which every interest of scientific medicine and public health will find full opportunity for expression.

Military medicine and surgery will naturally claim ample share of space, and while many of our able men are absent in foreign fields of duty, a large number are yet on this side in the various camps, cantonments, and U. S. Army hospitals, in fairly easy reach of Asheville, and it is expected the presence of many uniforms will add to the grace as well as the scientific interest of the occasion.

The programs of the various sections will be co-ordinated with those of the various other organizations meeting in Asheville at the same time, the Southern States Railway Surgeons, Southern Conference on Medical Education, Southern Gastro-Enterological Association, American Society of Tropical Medicine, National Malaria Committee, and the American Society for the Prevention of Infant Mortality.

With ample hotel facilities, an open-handed generous people and profession extending welcome to all, a wonderful program, the forthcoming Asheville meeting of the Southern Medical Association will go down in the history of medical meetings in the South and Nation as the greatest gathering of medical men ever held save and excepting only the great gatherings of the A. M. A.

Come to the Asheville session prepared to spend the week of both profit and pleasure, and if you live within some hundreds of miles, bring your automobile that you may take advantage of the opportunity to visit other attractive points in the nearby district including the U. S. Military Hospitals, including one at Kenilworth (in Asheville), Azalea (4 miles out), Waynesville (28 miles out), Hot Springs (30 miles away), where a careful land considerate government is giving kindly care and skilled treatment in this favored clime to a few thousand wounded, gassed and otherwise disabled soldiers.

Doctor, if you miss the twelfth annual session of the Southern Medical Association, you will always regret it. If you come, and you know you are coming, it will be a source of perennial joy and a lifelong spring bubbling ever forth with memories of autumn azure and mountain dews.

Traumatic Shock.—Brecht and Claret (*Bulletin de l'Academie de Medicine*), do not regard as fundamentally different the hemorrhagic, toxic, and infectious forms of shock. The hemorrhage, intoxication, and infection are mere complicating conditions. The true criterion of nervous blood pressure, but a reduction of the differential or pulse pressure, i. e., the difference between the systolic and diastolic pressures. The extent of diminution of the pulse pressure is of prognostic significance. Of seven shocked wound patients where the pulse pressure on admission was at least thirty mm. of mercury with the Pachon instrument, six recovered and the seventh died after thirty-six hours, not of shock, but of peritonitis. Of seven cases with a pulse pressure of twenty-five mm. or less, but one recovered, and this only with the help of adrenalin, which rapidly increased the pulse pressure. Above twenty-five mm. the prognosis remains favorable in the absence of infectious complications. At twenty-five mm. precisely, the prognosis is doubtful, and becomes the more unfavorable the less persistently the patient reacts to camphorated oil, saline solution, adrenalin, and perhaps pituitrin. Below twenty-five mm. the prognosis seems to be fatal. Another sign of shock, likewise apparently related to vasomotor paralysis and the resulting exsmosis, is a marked rise of intraspinal tension. Among seven wound cases in grave, pure shock, Claude's apparatus showed tensions ranging from 30 1-2 to fifty, and averaging 39.6.

EDITORIAL NEWS ITEMS

A New Hospital for Mullins, Va.—Dr. W. H. Willingford is soon to open a small hospital in that town. It is to cost \$16,000.

Dr. S. W. Pryor, of Chester, S. C., is to erect a nurses' home; 30 x 45 ft.; 2 stories;; brick; tin roof; oak floors; cost \$5,000.

Baptist Memorial Hospital of Memphis, Tenn., is to have an addition to building; 8 stories; brick, terra-cotta and reinforced concrete; also erect additional story to present 7-story structure for solarium; cost \$175,000.

A Red Cross Hospital in Jerusalem.—It has been said that the American Red Cross Society has established a general dispensary and hospital, with a children's clinic, in Jerusalem, and at the request of the government of Jerusalem the organization has taken over two orphan asylums with four hundred children. Three hundred Russian refugees, thousands of Armenian refugees at Port Said, and many homeless families near Jerusalem are also being cared for in Jerusalem by the Red Cross.

Dr. Eugene D. Bondurant, formerly of Mobile, Alabama, who is now Major in the Medical Reserve Corps of the United States Army is now at Danville, New York, in the United States army General Hospital number 13. This is a new hospital recently opened for the care of nervous and mental diseases and soldiers returning from France.

Dr. W. B. Summerall who has been Superintendent of the Grady Hospital in Atlanta, Ga., has resigned and has been commissioned Captain in the Medical Reserve Corps of the United States Army. Dr. Summerall is a good man and he is thoroughly capable of doing good work in the army.

Dr. R. E. Abell of Chester, South Carolina is entering the Army Medical services. Dr. Abell has for quite a while been connected with the Chester Sanatorium, and has turned his work to Dr. Priar, owner of the Priar Hospital. Dr. Abell is a high class medical gentleman and no doubt will render valuable services in the army.

Dr. C. P. Frier who has for some time been city health officer of Greenville, N. C., has been appointed Assistant Collaborating Epidemiologist of the United States Public Health Service. Dr. Frier is a valuable man and whenever he assumes responsibility he usually makes good.

Dr. Stuart McGuire of Richmond, Va., President of the Medical College of Virginia and who is at the head of the Virginia Base Hospital unit is now in France.

Dr. J. E. Warriner of Richmond, Va., is now President of the Medical Examining board of that state. Dr. R. S. Martin, deceased, was for many years President of that board. Dr. Warriner has succeeded him.

Dr. J. F. Robertson, formerly of Wilmington, N. C., who is now a lieutenant in the Medical Reserve Corps of the United States Army is now in France. Dr. Robertson is one of our best young men in the medical profession of North Carolina.

Dr. J. R. Parker of the Rainey Hospital, Burlington, N. C., announces that Dr. A. G. Woodard of Princeton has associated himself with the hospital there, and will be superintendent of the institution.

Dr. J. L. Anders who has been for a number of years Superintendent of the Health Department of Memphis, Tenn., is to enter the army in the medical department. He has received the commission as Major.

Dr. Stewart McGuire of Richmond, Va., who is now in France and who is at the head of Base Hospital 45, has recently received the promotion to the rank of Lieutenant Colonel. Dr. McGuire entered the service with the rank of Major.

Dr. Charles J. Mendelsohn, Wilmington, N. C., has been commissioned a captain in the National Army of the United States, and has received his commission and been assigned to duty in Washington. Captain Mendelsohn, who has been a volunteer in the Government service for more than a year, has been enthusiastic about the important work in which he has been engaged in the Military Intelligence Department at Washington.

Dr. J. A. Anderson, formerly of Gas-tonia, has recently accepted the position of Captain in the Medical Officers' Reserve Corps of the army. He is now stationed at Camp Greenleaf, Ga. He is at the Base Hospital No. 153.

It has just been announced that Major M. W. Ireland is to be our next Surgeon General. General Noble is to go over and replace him as Chief Surgeon of the American Expeditionary Forces. This selection seems to be very gratifying to the Medical Corps of our great army. General Ireland went over with General Pershing last year as assistant to General Bradley, Chief Surgeon, A. E. F., and was made Chief Surgeon when General Bradley had to return to the U. S. on account of physical disability. General Ireland has done brilliant work in organizing and co-ordinating the work of the Medical department over there. This has been recognized by the President in making him General Gorgas' successor, who has been retired on account the age limit.

27,000 Nurses Enrolled for Army Work—Miss M. Adelaide Nutting, chairman of the Committee on Nursing of the Council of National Defense, announced on September 4th that the Surgeon General's requirement of 25,000 nurses, to be enrolled by January 1st, has already been exceeded by nearly 2,000, while more than 1,000 student nurses, high school and college graduates, have been enrolled in the Army School of Nursing and will be assigned for training by October 1 in ten army camps east of the Mississippi, Camps Wheeler, Jackson, Sherman, Dodge, Shelby, Wadsworth, Devens, Grant, and Dix, and the Walter Reed Hospital in Washington. There are in the country 100,000 trained nurses and 14,000 nurses were graduated this year from the hospital training schools. Miss Nutting said that the need at the front is for highly trained nurses. According to one authority, American nurses have proved 100 per cent. efficient, largely because their strength was not diluted by untrained volunteers, the use of which on the part of our government was discouraged by the British and French military authorities when we entered the war.

Dr. L. K. Coppedge, who has spent 12 years in the Belgian Congo as medical missionary, has returned to this country. Dr. Coppedge lived in Charlotte while he was a student at the North Carolina Med-

ical college. He is a native of Rockingham, Richmond county.

As evidence of the esteem in which he is held in the land where he has spent some of the best years of his life, he has in his possession a scroll containing King Albert's appointment of him as chevalier of the Order of the Royal Line. This honor was bestowed by the Belgian king because of Dr. Coppedge's work of mercy among his subjects, and especially among the garrison at Luebo, capital of the Kasai, in the Belgian Congo.

Dr. Coppedge is to enter the Medical Corps of the United States Army.

Medical Officers Sent to North Carolina Camp.—The following army orders were issued September 9, 1918, at the Surgeon General's office:

Lieut. Col. Howard McN Snyder, medical corps, was relieved from duty at the medical officers' training camp, Camp Greenleaf, for Oglethorpe, Ga., on or about September 15, 1918, and will proceed to Camp Greene, Charlotte, and report in person to the commanding general of that camp, for duty with evacuation hospital No. 30.

Second Lieut. Earl J. Rickman, second infantry replacement regiment, will proceed to Waynesville, N. C., and report to the commanding officer, United States general hospital No. 18 at that place, for further observation and treatment.

First Lieut. Clyde B. Covey, medical corps, is relieved from duty at Camp Devens, Ayer, Mass., and will proceed to Charlotte and report to the commanding general at Camp Greene for temporary duty examining the command for nervous and mental disease.

Capt. Henry L. Stick, medical corps, is relieved from duty at Camp Sheridan, Montgomery, Ala., and will proceed to Camp Greene, Charlotte, for duty as camp psychiatrist.

Hospital Association of the State of North Carolina.—Recently about 75 doctors representing various hospitals of North Carolina assembled in Greensboro for the purpose of organizing a North Carolina Hospital Association. The Association was formed for work in an effort to standardize the hospitals of North Carolina and increase their efficiency to meet the demands of doctors who have entered government services for the duration of the war. Officers of the association elected on September 2nd were named as follows

J. F. Highsmith, of Fayetteville, Presi-

dent; Dr. E. B. Glenn, of Asheville, First Vice-President; Dr. L. A. Crowell, of Lincolnton, Second Vice-President; Miss C. E. Blunt, registered nurse, of Kinston, Third Vice-President; Dr. John Q. Myers, of Charlotte, Secretary and Treasurer.

North Carolina Physicians Recently Accepted Commissions in the U. S. Army Medical Corps:

Allen—Smith, W. P.
Carthage—Kelly, A. P.
Durham—King, M. N.
Ryland—Spencer, J. R.
Winston-Salem—Davis, T. W.
Hope Mills—Bradford, B. M.
Asheville—Reeves, A. F.
Batesburg—Gibson, W. T.
Chester—Abell, R. E.
Lewiston—Garriss, F. J.

Recently Commissioned in U. S. Naval Medical Corps:

Manson—Dill, G. T.

Recent Army Orders to North Carolina Physicians:

To Camp A. A. Humphreys, Accotink, Va., for duty, from Eastern Department, Lieut. B. B. Sturdivant, Sunburst.

To Camp Bowie, Fort Worth, Texas, for duty, from Western Department, Capt. R. B. Hayes, Hillsboro.

To Camp Dodge, Des Moines, Ia., for duty, from Camp Perry, Lieut. J. C. Dye, Statesville.

To Camp Pike, Little Rock, Ark., for duty, from Camp Travis, Lieut. F. M. McIver, Jonesboro; from Western Department, Capt. O. L. Stringfield, Jr., Mars Hill.

To Camp Sevier, Greenville, S. C., for duty, from Camp Wheeler, Lieut. E. S. Barr, Asheville.

To Camp Shelby, Hattiesburg, Miss., base hospital, Lieut. C. P. Mangam, Kinston.

To Camp Wadsworth, Spartanburg, S. C., for duty, from Fort Oglethorpe, Lieut. P. S. Easley, Statesville; from Southeastern Department, Lieut. M. R. Farrar, Greensboro.

To Fort McHenry, Md., base hospital, from Biltmore, N. C., Major W. L. Dunn, Asheville.

To Fort Oglethorpe for instruction, Capt. H. D. Stewart, Monroe; M. A. Bowers, Thomasville; Lieuts. G. C. Battle, Asheville; J. L. Rawls, Gatesville; W. B. Meares, Jr., Linwood; W. W. Johnston, Nanteo; H. E. Rowe, Newton; W. C. Thomas, Raeford.

To Hoboken, N. J., base hospital, from duty as aide to the governor of North

Carolina, Major J. W. Long, Greensboro. To New Haven, Conn., for duty, Lieut. W. T. Long, Roxboro.

Resignation of Lieut. S. R. Thompson, Charlotte, accepted.

To Camp Custer, Mich., as tuberculosis examiner, from Camp Meade, Capt. T. Frazer, Asheville.

To Camp Jackson, S. C., from duty as a contract surgeon, Capt. J. R. Williams, Asheville.

To Camp Sheridan, Ala., Lieut. P. B. Hall, Belmont.

To Fort Oglethorpe for instruction, Lieuts. W. S. Crawford, Bridgewater; J. N. Hege, Clemons; J. F. Foster, Kenly; W. P. Smith, Midland; from West Point, Miss., Lieut. J. J. Barefoot, Graham.

To Hot Springs, N. C., Lieut. W. N. McDuffie, Sisco.

To Lakewood, N. J. Capt. T. E. Davis, Winston-Salem.

To New Haven, Conn., from Camp A. A. Humphreys, Capt. G. S. MacPherson, Highlands.

To Camp A. A. Humphreys, Accotink, Va., for temporary duty, Lieut. A. P. Kelly, Carthage.

To Camp Dix, Wrightstown, N. J., for temporary duty, Lieut. B. M. Bradford, Hope Mills.

To Camp Dodge, Des Moines, Ia., for duty, from Fort Oglethorpe, Lieut. L. E. Guion, Waxhaw.

To Camp Greene, Charlotte, N. C., for duty, Capt. M. J. King, Durham.

To Fort Oglethorpe for instruction, Lieut. McGowan, Plymouth.

To Fort Ontario, N. Y., base hospital, from Camp Devens, Lieut. R. L. Daniels, Goldsboro.

To Fort Slocum, N. Y., for duty, from Fort Thomas, Capt. A. Durham, Charlotte.

Honorably discharged on account of physical disability existing prior to entrance into the service, Capt. A. H. Harriess, Wilmington.

The following order has been revoked: To Camp Wadsworth, Spartanburg, S. C., for duty, from Southeastern Department, Lieut. M. R. Farrar, Greensboro.

In Monroe, La., the recently held Fifth District Medical Association the following officers were elected; Dr. J. B. Vaughan, Colliston, President; Dr. I. B. May, Columbia; Dr. O. H. Thompson, Marion, and Dr. V. F. Carey, Downsview, Vice-Presidents; Dr. J. Q. Graves, Monroe, Secretary-Treasurer.

Bell County of Texas has what they call a Public Health Committee. The officers of this committee are as follows: Dr. John S. McCelvey, Temple, Chairman, Dr. Taylor Hudson, Belton, Vice-President; Dr. Ace H. Alsup, Little River; Dr. Olin F. Gober, Temple, and Dr. W. M. W. Splawn, Belton. This Committee will have charge of all matters of public health conservation.

Dr. John I. Barron of York, S. C., was recently married to Miss Eugenia Auld, of Mount Pleasant. Dr. Barron graduated from the University of Maryland in 1901, and is a very fine physician.

Facts Regarding the Bayer Company.

—The announcement made by Mr. A. Mitchell Palmer, Alien Property Custodian, that he is operating the Bayer Company, Inc., as a 100 per cent. American concern, will be welcome news to our readers. Its management is now under complete supervision of the officers and directors appointed by him, all of whom are native Americans. The capital stock of the company will be sold later to American citizens, and the money realized as well as all the profits will be used by the Government to prosecute the war and make the world safe for democracy. We are all interested in aiding the Government in the development of the chemical industry, and for this reason and because of the established value of many of them, the Bayer products are well entitled to the favorable consideration of the medical profession.

Medical Students in the United Kingdom.—According to the General Medical Council, there is no shortage of potential doctors in Great Britain and Ireland. The student registration for 1917 exceeded that for any year since 1891. The grand total for 1916 was 6,103; for January, 1917, 6,682; October, 1917, 7,048; May, 1918, 7,630. Of the 1918 students 2,250 are women. Although the number of women students is definitely on the increase, the total is not so large as had been expected. The increase is more decided in Ireland than elsewhere, the increment after Ireland being most noticeable in the London district. The number of women students for each of the five years is as follows: First, 665; second, 619; third, 484; fourth, 275; fifth, 207. In Ireland the number of women students is as follows: First, 114; second, 104; third, 73; fourth, 30; fifth, 12.

The next annual meeting of the Virginia Medical Association which is its 49th annual session will be held in Richmond, Va., October 22nd to 25th with headquarters at the Jefferson Hotel. This Association is one of the best in this country and no doubt this meeting will be one of its best, regardless of the fact that many of the doctors from that state are in the army. Dr. E. G. Williams of Richmond, Va., is president of the association. Dr. P. A. Irving, Farmville, is the efficient secretary. Dr. Paul W. Howle has been appointed chairman of the Committee of arrangements.

Mobilization of Women Physicians for Anesthetic Service.—Every effort is being made to keep war surgery at top-notch efficiency and to provide every wounded American doughboy with safe, rapid and comfortable anesthesia, both at the front and in the Hospitals in Blighty.

In this connection the following telegram is self-explanatory:

Washington, D. C., Sept. 18.

Dr. F. H. McMechan,
Avon Lake, Ohio.

Proceed at once to secure qualified women physician anesthetists under 45 years of age, of mental poise, as well as young women graduates, who are competent for such service.

Dr. Franklin Martin, (per)
Dr. Emma Wheat Gillmore,

Chairman Woman Physicians Committee,
Council National Defense, Medical Section.

Those women physicians, who are qualified for anesthetic service and who are competent to be intensively trained, are requested, at once, to get in touch with Dr. F. H. McMechan, Secretary Interstate Anesthetists, American Anesthetists, Avon Lake, Ohio.

Abuse of Milk in Young Children.—Comby would prohibit the use of more than a pint of milk daily after the completion of the first year of life while during the latter the amount should not exceed a quart daily. To subsist wholly on milk after weaning is to go without sufficient iron. The infants thus fed are anemic, fat, sluggish, constipated—in fact, really subject to a deficiency disease. The latter promptly improve upon fruit juice, purces, eggs, etc. The former alone—grape or orange juice—is sufficient for the purpose.—*La Presse Medicale.*

BOOK NOTICES

Anatomy of the Human Body by Henry Gray, F. R. S. Fellow of the Royal College of Surgeons; Lecturer on Anatomy at St. George's Hospital Medical School, London. Twentieth Edition thoroughly revised and re-edited by Warren H. Lewis, B. S., M. D., Professor of Physiological Anatomy, John Hopkins' University, Baltimore, Md. Illustrated with 1247 Engravings. Lea & Febiger. Philadelphia and New York. 1918. Price, \$7.50.

Since the publication of the English edition of this work in 1858 and the first American edition in 1859 great advances in the subject of Anatomy have been made, especially in microscopic anatomy of the embryo. This knowledge was embodied from time to time in the successive editions until finally considerable portions of the text, sometimes sections, were devoted to these subjects. However, the main text has always remained primarily a descriptive anatomy of the human body.

In the present edition the special sections on embryology and histology have been distributed among the subjects under which they naturally belong. New matter on physiological anatomy, laws of bone architecture, the mechanics and variations of muscles have been added, occupying much of the space formerly devoted to the sections on applied anatomy.

The sections of the ductless glands and the nervous system have been largely rewritten. In the latter a more rational presentation of the sympathetic nervous system has been achieved through the use of diagrams and descriptions based on physiological and pharmacological work. The central connection of the spinal and cranial nerves are also emphasized.

Illustrations have been added wherever important points could be made more clear, and throughout the work colored pictures have been even more extensively used than heretofore. In this respect special mention might be made of the central nervous system and the section of the muscles. In the section on Syndesmology six illustrations are used from Quain's Anatomy through the courtesy of the publishers, Messrs. Longmans, Green & Company, of London.

The use of the B. N. A. nomenclature in English has been practically unchanged in this edition and important references to the literature have been added

at the end of each section.

As a practical work on the subject for the student, Grays' Anatomy has always been recognized and appreciated. The plan originally formulated, which has proved so successful, has been adhered to as much as possible. It is interesting to note that although Henry Gray saw only the first edition, much of the original text persists and many of its illustrations are still in use. Bearing this in mind it has been the endeavor of the editor to supply only such changes as advances in the science made necessary in order that this work may reflect the latest accessions to anatomical knowledge.

This is a very handsome volume of 1396 pages. It is well printed. The 1247 illustrations or engravings, many of them in colors, are most excellent.

The Secret of the Marne, How Sergeant Fritsch Saved France, by Marcel Berger, Author of "Ordeal by Fire," and Maude Gerger. G. P. Putman's Sons, New York and London. The Knickerbocker Press. 1918. Price \$1.50.

In a novel rivalling the most exciting detective story, but written with amazing power, the authors build their story around that glorious Marne week, when Von Kluck and his cohorts turned to the southeast instead of rushing on Paris. Why did he make this initial mistake that resulted in the Victory of the Marne! There was a young French Sergeant who knew, a witty, daringly brave young man, a magnificent linguist and expert tactician—and his ladylove, the beautiful Marie Anne, daughter of the stern old Marquis de Seranzeraux knew too.

Marcel Berger studied closely as soldier, and later as visitor the several regions described, and the novel is as accurate in historical detail as it is astounding in invention.

This is a book of 361 pages, and is certainly a very interesting novel.

Mrs. Morden's Ordeal, by James Hay, Jr., with frontispiece by Armand Both. Boston Little, Brown, and Company, 1918. Price, \$1.50.

Mrs. Ruth Marden, a young and lovely social leader, is made miserable by jealousy of her husband's attention to other women, particularly to the beautiful Marjorie Nesbit. Her unhappiness and efforts to conceal it create such a state of nervous tension that she finally loses her self-control utterly, and when Marjorie is found murdered at the Marden's reception, the added shock results

in her total loss of memory. Mrs. Marden alone holds the key to the mystery, and can fix the responsibility for Marjorie's death, yet she is baffled by her inability to recall the incidents she witnessed. How she exerted herself to save Charles Corcoran, her dearest friend, who was accused of the murder, how she was led to final recollection of that tragic night through the amazing and revolutionary treatment of Doctor Doyle—one of the most striking characters in the book—presents a theory whose use in fiction is entirely new. The atmosphere is tense throughout, and the denouement as unexpected to the reader as to Mrs. Marden herself, whose restored memory brings back also the peace and happiness which she had thought forever lost.

This is an interesting book. It deals with scientific information that is seldom found in a novel. The writer, Mr. Hay, is evidently a well informed man.

Aircraft and Submarines, the Story of the Invention, Development, and Present-Day Uses of War's Newest Weapons. By Willis J. Abbot, Author of "The Story of Our Army," "The Story of Our Navy," "The Nations at War." With eight color plates and 100 other illustrations. G. P. Putman's Sons, New York and London. The Knickerbocker Press. 1918. Price \$3.50.

Aircraft and Submarines have been the two new weapons which the inventive genius of the last quarter of a century has contributed to the present war. Each has exercised an exceedingly important, perhaps dominant, influence in the course of the combat. Many strategists insist that the aeroplane with its unparalleled equipment for scouting and observation of the enemy's lines has been responsible for the prolonged duration of the struggle. Mr. Abbot not only knows his subject, but supplements the text with a very complete series of illustrations in color by John D. Whiting and from photographs. There are also including some full-page illustrations from the striking paintings by the French artist and aviator, Lieut. Farre, Peintre Officiel des Ministeres de la Guerre et Marine. (Awarded French Cross).

The reviewer of this book has been much interested in looking over it. The illustrations are marvelously interesting. The history of Submarines and Aircraft Machines is fully given in the book. This possibly is as instructive, possibly more accurately given than any book that has so far been published.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements, in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics, *Materia Medica* and diagnosis in the Jefferson Medical College, Philadelphia; Physician to the Jefferson Medical College Hospital; one time clinical Professor of diseases of children in the University of Pennsylvania; Member of the Association of American Physicians, Etc. Assisted by Leighton F. Appleton, M. D., Instructor in Therapeutics, Jefferson Medical College Hospital, Philadelphia; Ophthalmologist to the Frederick Dugdale Memorial Hospital and to the Burd School; Associate in Ophthalmology, Philadelphia Polyclinic Hospital and College for Graduates in Medicine. Volume III. September, 1918. Diseases of the Thorax and its Viscera, including the Heart, Lungs and Bloodvessels—Dermatology and Syphilis—Obstetrics—Diseases of the Nervous System. Lea & Febiger, Philadelphia and New York. 1918.

On the Fringe of the Great Fight, by Colonel George G. Nasmith, C. M. G., New York, George H. Doran Company. Price, \$1.50.

Why has this war, in other respects the most terrible in history, failed to take its accustomed toll of casualties by contagious disease? The efforts of the medical and sanitary corps are quiet, tireless, heroic. They investigate the carcass of a dead rat and—save an army from bubonic plague. There are times when Tommy wants a bath more than he wants the V. C.—and these are the men who see that he gets it.

Colonel Nasmith was in conference with the greatest scientists of France in war-time Paris. He was near St. Julien at the time of the first gas attack. He saw the second battle of Ypres. He analyzed the German gas, invented the gas mask, devised a means of supplying the troops with pure water. And he tells about it all with the terseness and conviction of the man who has seen with his own eyes the things whereof he speaks.

This book contains 263 pages. It is full of interesting reading. The author is well known and it gives me pleasure to recommend the book.

Miscellaneous.

Sterilization of Local Anesthetics.—

Macnaughton-Jones, in *The London Lancet*, advocates the preparation of any of the local anesthetics in the form of very concentrated solutions along with sodium chloride, which in the high concentrations employed not only preserves sterility, but also renders contaminated solutions sterile in a few days. The solutions should be made of such strength that they will require dilution forty times with sterile, distilled water for use. These concentrated solutions should be kept in sealed glass tubes. Since the reduction of the osmotic pressure of the solution to a point equal to that of a four-tenths per cent. solution of salt materially enhances the anesthetic property of any solution, the most desirable solution to be used are such as will have this osmotic pressure. The amount of drug to be used along with the salt can be determined by its molecular weight. Thus the molecular weight of procaine is four and six-tenths times that of sodium chloride, and therefore one part of sodium chloride is equal in osmotic pressure to four and six-tenths parts of procaine. The simplest method of preparing the concentrated solutions is to use the quantities of the anesthetic, salt, epinephrin, etc., which are desired, per 1000 parts of solution and to make them up to twenty-five parts. Two most serviceable formulas for concentrated solutions follow, each requiring dilution with forty parts of distilled water for use:

I.

Procaine	3.25
Sodium chloride	3.25
Epinephrin hydrochloride (1-1000)	8.00
Water to make	25.00

II.

Cocaine hydrochloride	2.0
Sodium chloride (approximate)	3.75
Epinephrin hydrochloride (1-1000)	6.0
Water to make	25.0

In Dispraise of Vaginal Douching.—

This time honored and time increasing custom is left by Doctor Fothergill no natural leg on which to stand (W. E. Fothergill: *The Bad Habit of Vaginal Douching*. British Medical Journal). At the most he permits it an artificial prop under a few exceptional circumstances, when the aid of a nurse must be employed and conditions must be made fitting for its administration. This is quite remote from the easy practise of prescribing

ing a douche in the most careless and ready manner or from the self administration at the advice of some more "experienced" relative or one's own inclination and ignorant judgment. This has been all too much winked at or even encouraged by medical advice and medical sanction.

Fothergill points out from his own experience the serious mistakes which have come to his attention and which are all too prevalent through this form of self-treatment or through the ignorance and indolence of physicians. What the douching female public does not know and what the medical man fails to take into account is a number of physiological facts, ignorance and neglect of which lead therefore into physiological abuse. The vaginal secretion, so often mysteriously and fearfully regarded, is simply serum which exudes from the squamous epithelium and which normally presents a creamy appearance because it becomes mixed with leucocytes and epithelial debris. Moreover, this discharge is in itself an antiseptic protection against invading organisms. Douching washes this away, kills the acid producing bacteria which are otherwise faithfully performing their function in the vagina, kills the superficial layer of cells, and irritates the subadjacent layers. In fact, the discharge which mistakenly leads to douching is abnormally increased by the procedure, as it promotes hyperemia of the parts, and menorrhagia, congestive dysmenorrhea, and intermenstrual congestive pains are encouraged.

Vaginal douching proves itself no less detrimental and contraindicated for the most part in acute and subacute conditions. The most that it can do in regard to septic infection of the uterus is to add to the sum of infectious material by introducing more germs into the cavity, or, in case of a vulvar infection, as in gonorrhea, to carry the infection through the vagina to the cervix. An infection once in the uterus is never touched by the vaginal douche, but some other way than even the dangerous intrauterine douching is needed to cleanse the uterus thoroughly. The organ then should be let alone.

There are occasions when the author would advocate douching, as, for example, in the palliative treatment of cancer of the uterus. This, however, is a far different procedure from the popularly applied douche. The douche must be given to the patient while lying flat on her back, when the fluid can properly

reach the vaginal walls and be applied sufficiently thoroughly to produce the desired effect. Hot douches at a high enough temperature not to increase the hyperemia and bleeding, for the prevention of which they are usually prescribed, are so difficult of administration that they should be left for exceptional conditions, when they can be most carefully administered at an actually high enough temperature.

Doctor Fothergill calls attention to the fact that the slimy condition which leads to the use of the douche in many instances is also due to a condition physiological and but little pathological, one which is aggravated rather than helped by douching. It is caused by excess of mucus coming down from the uterine walls and this is due largely to a lack of vascular and muscular tone in these walls. It should be reached by other means than the further disturbing vaginal douche.

If we add to this a consideration of the mental habits into which individuals so easily fall, whereby they come to rely on practices hurtful in themselves, followed in ignorance both of physiological laws and in obedience to superstitious custom and disguised, unacknowledged wishes, this practical physiological discussion receives support from an even broader psychological basis. The douching habit has formed an all too ready pitfall for the fussy egoism which preoccupies itself with its own ills, the unconscious eroticism which busies itself on too slight provocation with the sensitive genital region. It thus utilizes some slight or negligible condition and creates more serious ones for a manipulatory gratification which is unconscious, but which does much to increase and make chronic symptoms which to consciousness may be very inconvenient and distressing. Psychotherapy very frequently discovers such an unconscious attitude toward the douche can, which is doing subtly even more direct injury than those of which the physiologist has spoken, and the mental side of the habit has much to its account in creating and maintaining the train of disturbances of which he speaks. If the simple facts cannot be too strongly emphasized from the physiological side, neither can they be too often insisted upon from the psychical, until physician and patient come to understand better the subtle working of cause and effect in the service of inner hidden motivation and striving, which, because of the deep and broad connection of a woman's gen-

ital organs with her emotional life, play such a large part in her genital disorders. —New York Medical Journal.

Antigonorrhoeal Vaccination. — We have on various occasions discussed the question of antigonorrhoeal vaccination. It has been given a trial by numerous observers. For instance, Dr. Maublanc is unhesitating hostile to the method. "The vaccine," he remarks, "often sets up violent reactions and in certain subjects, just as with the anti-typhoid vaccine, it is better abstained from." It is true that according to this observer it is possessed of numerous advantages, especially that of calming the pain in orchitis. "In short, an auxiliary sometimes useful medication, which, however, must always yield precedence to local treatment."

Similarly, in two cases, Dr. Blumenthal (*Presse Medicale Belge*) was obliged to suspend the use of the said vaccine because after each injection disquieting symptoms supervened, such as high fever, headache, nausea and rapid emaciation. The method for that matter did not appear to exert any influence on the urethral discharge.

Same conclusions on the part of Dr. Denis, who states that the injection is sometimes followed by sharp local pain and an actual recrudescence of the local symptoms, the running increasing in amount, the anterior urethra becoming congested and the constitutional symptoms assuming such a degree of acuity that the treatment had to be stopped.

According to Drs. Bannomour and Salle two methods only are worth retaining.

Nicolle and Balaisot's vaccine possesses an indisputable curative action, but it is very variable in its effects. Moreover, the injections are often badly borne. Subcutaneous they give rise to distressing persistent erythema, intragluteal they cause very severe pain, lasting upwards of half an hour.

With regard to the antigonococcal serum recommended by Drs. Pissavy and Chauvet it is suitable for certain cases of gonorrhoeal rheumatism, especially those in which pain and phlegmonous tendencies predominate. In these cases it proves analgesic and curative. The treatment reduces to a minimum the duration of the disease and the sojourn of the patient in hospital. This enables us to obviate the grave sequelae: atrophy and ankylosis. According to all authors who have had occasion to observe the ultimate effects these are excellent. At most in

severe cases and there remain slight functional impairment. Thanks to the antigonococcal serum we avoid the risk of early arthrotomy and ankylosis in good position will in future not be the guiding predominant idea in the surgeon's mind. No atrophy and consequently no deformity and no bony formations which are so often the consequence thereof.

Lastly, in a case reported by Dr. Fontanilles, of a man, age 32, the urethral discharge dated back twelve months and was still mattery, containing numerous gonococci; for two months past he had complained of pain in the right knee and, on the same side, of talagia, pain in the shoulder and in the sternoclavicular articulation. The classical treatment not having yielded any result, they tried Nicolle's vaccine by intravenous injection. Three days later the joint trouble had disappeared.

It will be seen therefore that there is still great difference of opinion as to the curative value of vaccination and with respect to its indications. No doubt it is especially indicated in gonorrhoeal rheumatism and perhaps also in certain diseases of the uterine adnexa. But even here it often falls short of our hopes, and this without any plausible explanation of the failure. On the other hand it is by no means rare for the injections to be badly borne, setting up severe local pain or destroying the constitutional symptoms. Moreover, unless the practitioner be in a position to keep his patients under close observation for a sufficient length of time he will find it advantageous to stick to the classical methods of treatment which have long since established their reputation and, properly handled, determine unhopd-for improvement and even prompt recovery. According to Professor Fournier the conditions of success for these substances are three in number.

1. To give them at the proper time, i. e., neither too early nor too late.

2. To give them in suitable doses, i. e., neither too much nor too little.

3. To persevere with them as long as is necessary (Jaccoud Dictionary: article on *Blenorrhagie*).

These prescriptions had their *raison d'être* when the practitioner only had at his disposal impure balsoms uncertain in their action and often badly tolerated. Now that we have at our disposal products such as arheol, a well-defined chemical compound which is neither more nor less than the active principle of sandal-

wood oil, there is no need to hamper ourselves with these restrictions. We can, as is shown by the experience of innumerable practitioners, administer arheol at all stages of the disease, as well at the onset as when fully developed, in urethritis just as in gleet, and in the treatment of local accidents: prostatitis and epididymitis just as in constitutional complications (rheumatism) with the best possible results provided we give it in adequate doses and prolong its use as long as may be necessary.—The Canada Lancet.

Apothesine or Cocaine?

There are many indications that apothesine is gradually superseding cocaine as a local anesthetic. This is not said in depreciation of the last mentioned drug, the merits of which are well understood. It must be remembered, however, that cocaine possesses some grave defects. Prominent among these is its toxicity. Furthermore, unrestricted use of the product leads ultimately to the formation of the cocaine "habit." Apothesine, while as efficient as cocaine, has been shown by comparative tests to be far less toxic than the latter. Moreover, it is not subject to the narcotic law, and its use does not eventuate in "habit" formation. Apothesine produces such complete anesthesia that even major operations are performed under its influence (quite as successfully as under cocaine), a fact that further emphasizes the importance of its discovery.

Acute Metatarsal Overstrain (Foot-swelling).—A. Rocyn Jones describes the case of a soldier in which a provisional diagnosis of trench feet was made. An X-ray examination, however, showed fracture of the second metatarsal bone in each foot. He points out that marching fractures seldom occur in both feet and gives the figures of Nion, who found that out of 575 cases in two only were both the second metatarsals affected, in one both the third, and in one the second and third. Rarely are there two fractures in the same foot, either, and in Nion's series the second and third metatarsals were broken only in four cases, and the second and fourth in one case. Acute metatarsal overstrain is practically confined to the three middle metatarsals and Nion gives the proportions of 112:98:17 for the second, third, and fourth metatarsal, respectively. Rocyn Jones points out that the second metatarsal bone is the one most subject to variation; it may be

the strongest next to the first metatarsal, or it may be the weakest. The third is always a weak bone. The frequency of fracture of these bones is due to their commonly slender length, their fixity, their direct forward projection, their line in the transmission line of body weight, and the part they play in the leverage action of the foot. The development of symptoms, as a rule, is gradual during a march, and there is rarely any account of accident. The pain is localized to the metatarsus, and by running the fingers along the bony shafts a very sensitive spot will be found in one of them. If a fracture occurs, discoloration of the skin due to extravasation of blood, may be present and possibly crepitus elicited. Swelling of the foot is usually a prominent feature. The diagnosis can only be definitely established by the X-ray. If there is no fracture periostitis may be present and is shown in the skiagram by vagueness and irregularity of outline. The condition occurs more frequently in troops from lowland than from mountainous districts, for hill climbing tends to strengthen the metatarsus and pedal muscles, and possibly to promote a better power in dorsiflexing the foot. Treatment: Complete rest off the feet for four weeks, and the application of massage and hot air. The heating chamber should be at a temperature of 300 deg. Fahr., and the limb well protected by wool and flannel bandages. Treatment should occupy from thirty to forty minutes daily. As an alternative treatment passive hyperaemia may be adopted. A Martin's bandage is applied round the leg just above the ankle, so as partly to obstruct the venous flow from the foot. This treatment should be applied first for an hour daily and gradually extended to several hours. At the end of one month or less in the case of periostitis the patient is allowed to get on his feet gradually, and ten days later, if there is no pain or swelling, to walk freely. In the case of fracture a transverse "football" bar may be worn for a few weeks and then discarded. Care should be taken that a properly fitting boot is provided.—British Medical Journal.

Results of Blood Transfusion.—Ricux (Paris Medical), reviews the subject of blood transfusion, as illuminated through general discussion at the recent Fourth Interallied Surgical Conference. He takes up first the rules for choosing donors, then the indications for transfusion, and later the various methods employed.

The artery to vein method may now be considered obsolete. Transfusion of pure blood from a receptacle coated with paraffin, of citrated blood, or of preserved blood method being simplest of all, though not as yet definitely established. Transfusions in rather large series of cases yielded 71.8 per cent. of recoveries in cases of hemorrhage or of hemorrhage with shock; twenty-seven per cent. in cases of pure shock, and 44.4 per cent. in cases of infection. Results from the three methods referred to—pure blood, citrated blood, and preserved blood—have seemed practically the same, about three-fourths of all cases of grave hemorrhage being saved. The percentage of recoveries in the entire number of cases of different types under discussion, covering 150 transfusions, was sixty. This result is so gratifying that Tuffier has characterized the lack of attention paid until lately to blood transfusion as one of the gravest therapeutic omissions since the beginning of the war.

Utilization of Platinum in Unused Instruments.

1. In view of the limited supply of platinum in the country and of the urgent demand for war purposes, it is requested that every doctor and dentist in the country go carefully over his instruments and pick out **every scrap of platinum** that is not absolutely essential to his work. These scraps, however small and in whatever condition, should reach Governmental sources without delay, through one of two channels:

(a) They can be given to proper accredited representatives of the Red Cross who will shortly make a canvas for that purpose.

(b) They may be sold to the Government through any bank under the supervision of the Federal Reserve Board. Such banks will receive and pay current prices for platinum.

By giving this immediate attention you will definitely aid in the war program.

2. It is recognized that certain dental and surgical instruments requiring platinum are necessary, and from time to time platinum is released for that purpose. It is hoped, however, that every physician and every dentist will use substitutes for platinum for such purposes wherever possible.

3. You are warned against giving your scrap platinum to anyone who calls at your office without full assurance that that individual is authorized to represent the Red Cross in the matter.

The Military Aspect of Venereal Disease.—Bates (Canadian Public Health Journal), says he believes of all classes in the community the one that is most protected against venereal disease is the soldier. Public health methods, education, inspection, quarantine, compulsory treatment, on these factors reliance is placed to do away with venereal disease in the army. Statistics gathered so far prove conclusively that there is less venereal disease among returned soldiers than there is among a similar class of men in the civil population, that the average soldier is less likely to have venereal disease than the average civilian walking the streets of Toronto. It is because of this fact that the conclusion was come to that wide civilian co-operation was necessary if it was ever to be hoped to stamp out venereal disease from the army. Because of this and because it was also realized that work begun now as a war measure would be found absolutely essential as a peace measure, the Canadian Advisory Committee on Venereal Diseases was formed. It is felt that it and the movement it represents bespeaks the support of this whole community. It may be added that the appointment of an officer in charge of venereal diseases has been authorized for each military district, and that through these appointments is found the framework of machinery which may well be utilized to attack this question all over Canada. In the army there is an organization already. It may be pointed out that any civilian commissions which are brought together as in Toronto will probably remain together after the war, and will prove a valuable means of stimulating public opinion and obtaining necessary dominion and provincial legislation. It is now asked that the methods of education and treatment used in the army be copied in the civilian population as far as they are practicable. There is something else, however, which should not be lost sight of.

The social causes of venereal disease are deeply rooted in the organization of society, but they are becoming more and more clearly defined. The venereal disease problem is sometimes called the greatest lever for social reform which has been given us. In view of the great seriousness of its social, medical, and economic results, there seems to be some truth in the statement. The subject is now being considered with a view to applying what may be called purely public health methods. This is just as it should be, but public health should be given its

widest possible interpretation. Statistics are at hand, for instance, which seem to prove that the elimination of alcohol means the cutting down of venereal disease incidence. Therefore the elimination of alcohol from a community must be a public health triumph.

Bacterial Examination of Wounds.—

Levaditi (Presse Medicale), states there is no longer any doubt as to the importance of bacteriologic examination of war wounds as a guide to the indications and results of primary, primo-secondary, and secondary suturing. In the case of a primarily sutured wound the inoculations are made from a wick of silkworm gut strands placed in the centre of the wound before suture. In wounds that are to be left open, the cultures are taken fifteen to twenty hours after the surgical cleansing procedures by means of a tampon on a metallic rod, placed in a sterile test tube. From this tampon are inoculated in succession an agar slant; a tube of glucose agar (Veillon), and a tube containing two mls of bouillon and 0.2 ml of horse serum. With a fine pipette a second passage is made, beginning with the agar slant and glucose agar. Finally, a smear should always be made from a second tampon previously passed into all the wound recesses. This should be stained with Gram fuchsin. The results are recorded after twenty hours' incubation on a special chart with separate columns for the bacterial species detected and the results of quantitative microscopic study of the smear, the number of bacteria per field being noted. This quantitative examination, carried out every two or three days until suture is deemed opportune, supplies data for a bacterial curve and shows the precise moment of critical depuration of the wound. In a separate column the indications for suture are noted by the bacteriologist for the surgeon's information. Wounds with streptococci, primarily sutured, must be watched and the sutures cut in the event of marked general and local reaction; if not yet sutured, they should be submitted to adequate treatment, preferably the Carrel procedure, and left open until the cocci disappear or are sufficiently attenuated to permit of healing by first intention or almost complete closure. In wounds showing other germs, suture is in order unless the infection is very abundant, in which event they should remain open until the bacterial curve indicates the moment of critical depuration.

Medical Problems of Aviation.—Bernard (Le Progres Medical), enumerates some of the aspects of aviation which belong to the province of the physician. First he mentions the effects of flying on sight and hearing. Next comes the reaction of the nervous system and psyche—the nervous tension and subconscious fear of falling especially within enemy lines. The aviator has many activities—pursuit, observation, bombing—and he must possess coolness, quick wit, and prompt decision. When not on the wing his life is one of forced idleness, to balance the intense and prolonged labors of the day, or night. Strange to say, it is not always the robust man, the open life man, or the sporting man who makes the best flyer, although the qualities which such men possess are always of value.

It is now easily seen that there was an enormous waste at the outbreak of the war through imperfect and unsystematic selection of pilots. This meant loss of both man and machine power. The shortcomings under this head have now been met by various resources. There are now schools of apprentices and much trying out can be practiced—adaptation of altitude, adaptation to cold, and all other prophylactic subjects come into play to determine the fitness of candidates. We know now that the aviator temperament is the great asset. Such a man takes naturally to the technique of the machine no less than to flying itself. He is a fighter no less than a flier. Thus far we know that while a good horseman or canoeist makes a good aviator, a good aviator makes a poor sailor. The preferred age period is 18 to 30 years. Under 18 the judgment is bad while over 30 one begins to tire more readily. The aviator must not be too short—not under five feet one inch. He must have a firm abdominal wall, without weakness or threatened hernia, for changes in intraabdominal tension predispose to fainting attacks. Men who have suffered injuries in other services may sometimes have the qualifications of an aviator, but those who have been struck in the head are not dependable. It is the man disabled in one or both of his lower limbs and hence not available for marching who can often be made into a flier.

The French warn against abuse of alcohol and tobacco by fliers but do not forbid mild indulgence when off duty, and one English student of flying (Graham Anderson) sees nothing to be gained by tectotalism. The policy of abstinence imposed upon American fliers will

have a chance to demonstrate its superiority, if it possesses it. Untreated and uncured syphilitics are undesirable.

Rickets in Its Relationship to Housing.

—Findlay (Glasgow Medical Journal), thinks may be said to affect at least fifty per cent. of the children of industrial populations. The disease, while not directly fatal, increases susceptibility to the respiratory complications of measles and whoopingcough and is indirectly responsible for a rather high death rate. Experimentally the author found that normally fed young dogs could be made rachitic simply by confinement and lack of exercise, while dogs fed on a diet poor in fat but allowed to exercise developed diarrhea and marasmus, not rickets. Later he conducted a statistical study of the dietetic and home conditions of 500 rachitic children, and now reports still another study of the same kind. The main etiological factors, in the order of their significance, proved to be improper housing, absence of facilities for open air life, and imperfect parental care. Poverty per se did not seem a factor of any importance. Most of the rachitic children were as suitably fed as the non-rachitic, and in not a few cases even better, both as to quality and quantity; the amount spent on rent, however, was distinctly greater in the nonrachitic than in the rachitic family. Where rachitic and nonrachitic occupied the same houses, neither the number of stairs up, the exposure, nor the question of through and through ventilation seemed to affect the frequency of the disease. Quite otherwise was it, however, when the number of persons to an apartment and the general cleanliness and care of the home were considered. With the markedly rachitic children, 3.93 persons inhabited each apartment; 3.0 was the average for nonrachitic families. The average air space for markedly rachitic families was 422 cubic feet per person, for the mildly rachitic, 483 cubic feet, and for the nonrachitic families, 625 cubic feet. Nearly fifty per cent. of the rachitic children were admittedly not taken out for exercise, and only thirty per cent. seemed to be sufficiently exercised in the open air. Of the healthy nonrachitic children, 86.5 per cent. were properly exercised in the open, and only four per cent. did not receive the necessary airings. The seasonal incidence of the disease—spring rather than late summer or autumn—is undoubtedly due to this open air factor. The incidence of rickets would seem to be a question of economics. Until prop-

er housing and reasonable facilities for outdoor life are provided it is vain to expect that more than a limited number of poor parents in towns will succeed in rearing nonrachitic children.

Fractures of the Elbow in Children.—Mayet (*Presse Medicale*), disapproves of the customary immobilization of elbow fractures in children in plaster casts for a period of three weeks, and asserts that reduction and fixation can nearly always be effected more easily, completely, and rationally in the extended position. The latter is also highly advantageous in permitting of ready reduction of lateral displacements and even of co-existing dislocations. B yellowing the soft parts, and especially the ligaments, to heal without shortening or retraction it facilitates subsequent recovery of the complete range of movements at the elbow. Care to avoid ankylosis in extension is, of course, essential. But the line of fracture in these cases is generally through the zone of epiphyseal union and bony growth, and consolidation takes place so rapidly that in ten days flexion can be substituted for extension and the joint then immobilized again for a period of ten days. By thus utilizing in succession both of the opposed positions, complete mobility of the elbow is preserved and recovery of function hastened. The author's procedure was carried out successfully in a series of thirty-five cases of elbow fracture.

Post Malarial Anemia.—Harrington and Whitelaw (*Glasgow Medical Journal*), observed and investigated by them found a great deal of post malarial anemia in that part of Europe, much of which was of a severe type. This occurred chiefly among Serbian soldiers, although occasionally among Bulgarians and other nationalities. From careful examinations and blood counts the following deductions were drawn:

Severe Forms.—(1) Post malarial anemia may assume a grave type characterized by all the signs and symptoms of pernicious anemia, but without evidence of oral or intestinal sepsis. (2) The spleen is enlarged, sometimes considerably so, but the liver is seldom enlarged. (3) The blood shows marked diminution of red corpuscles, high color index, leucopenia with a relative increase of lymphocytes, and to a lesser extent of large mononuclears, poikilocytosis, megalocytosis, polychromasia, occasional granular basophilia, the presence of megaloblasts and normoblasts, and a small percentage of

myelocytes which persist. (4) Such cases occur most frequently as a sequel of subtertian malaria, but may follow benign tertian. (5) Recovery usually follows prompt and energetic treatment, but death may occur and the gravity of the prognosis increases with the age of the patient. (6) Treatment by arsenic used as in pernicious anemia, either as liquor arsenicalis in increasing doses or galyol or arsphenamine intravenously, usually leads to recovery. It should be combined with treatment by quinine, orally or intramuscularly, as indicated.

Mild Forms.—(1) The blood shows a less marked diminution of red corpuscles, a low color index, except in a few more recent cases, a less marked leucopenia with a relative increase of lymphocytes and large mononuclear cells; slight poikilocytosis, occasional megalocytes and polychromasia, rarely granular basophilia, the presence of normoblasts, and a small percentage of myelocytes frequently and of myeloblasts constantly. (2) The average age of the patients is lower. (3) Recovery is the rule.

Visceral Manifestations in Congenital Syphilis.—Barbier (*Bulletins et Memoires de la Societe Medicale des Hopitaux de Paris*), directs attention to certain nervous symptoms encountered by him in numerous cases of inherited syphilis, viz., attacks of vomiting or of abdominal pain, and incontinence of urine. The vomiting attacks are most common among patients between the ages of five and ten years. The attack starts suddenly, while the child, perhaps, is playing or talking, and without relation to meals. Usually it begins early in the morning. It is preceded by prodromes, generally a frontal headache, sometimes very severe, which appears a few hours or even days before the vomiting. The headache disappears, as a rule, rather rapidly after vomiting has set in. Sometimes there are also nervousness and peevishness. Sleep is less sound than usual. Vomiting may be repeated a number of times, up to twenty times a day; in the latter event blood may appear in the vomitus. The attack as a whole may last from a few minutes to two or three days. When the vomiting ceases, the child returns to its playthings. The attacks are not periodic; many of the patients have two or three a year, but longer intervals may elapse. At times a transitory meningeal syndrome supervenes, with somnolence, irregularity of breathing and heart action, and disturbed reflexes. The cerebrospi-

nal fluids yields a positive Bordet-Wassermann reaction, but the blood reaction is variable. The attacks tend to diminish toward puberty, but are previously amenable to systematic antisyphilitic treatment. Barbier gives biniodide or small doses of potassium iodide by mouth, avoiding inunctions which he has found dangerous in these cases. Sudden attacks of enteralgia with liquid stools, passing off suddenly, and enuresis occurring alone or in conjunction with gastric attacks in children of four or five years, are other manifestations of inherited syphilis.

The Modern Conception of Diabetes.—

The London Lancet says that diabetes has always been characterized by the excretion of sugar in the urine. Previously the generally accepted treatment has been to exclude carbohydrate from the diet, but, at that, the patient still excreted sugar. The source of this sugar has been traced to protein. Protein consists of some eighteen aminoacids. Some of these are converted, in diabetic patients and in experimental animals (depancreatized, phloridzinized) into glucose. Another origin of carbohydrates in diabetics in fat; but this is not of outstanding importance.

The acetone, acetoacetic acid, and oxybutyric acid which are characteristic of severe cases of diabetes have been proved to be derived from the fat of the food, but they may also arise from protein. Acetoacetic acid is the primary product, oxybutyric acid being a reduction product of acetoacetic acid. The production of acid was formerly thought to be the cause of diabetic coma, but the coma is really due to the toxic action of acetoacetic acid. Since acetoacetic acid is a ketonic acid, the term ketosis might be used in preference to acidosis. Though acetoacetic acid may, theoretically, be derived from carbohydrate this source may be excluded, according to the latest work done by Hurlley.

Glycosuria is then derived from the carbohydrate and protein of the diet; the acidosis, from the fat and to a small extent from the protein. The diabetic uses the carbohydrate of the food too slowly; some of his carbohydrate he derives from the protein and fat leading to more decomposition of these than normal and the production of more acetoacetic acid, which is reduced to oxybutyric acid, and excreted, instead of being oxidized as normally.

The modern treatment of diabetes as

described by Dr. E. P. Poulton in his Goulstonian lectures is to reduce the amount of all kinds of food stuffs to the lowest possible limit, thus reducing the quantity of the excretory products. The mortality in Guy's Hospital has been reduced from twenty-three per cent. in the ten years previous to 1916, to seven and seven-tenths per cent. since 1916, owing to the adoption of this method of treatment. The carbohydrate disappears from the urine and there is less acetoacetic acid. By careful addition of carbohydrate to the diet the patient's tolerance for carbohydrate is determined; similarly the protein and fat amounts are adjusted. By this method of treatment the patient may attain a diet of 1,500 to 2,000 calorie value, the lowest possible limit for the normal individual.

Prophylactic Triple Inoculation Against the Typhoid Group.—Walker, in The London Lancet, records the results of a series of carefully conducted observations made to determine the most favorable conditions for the production of immunity by the injection of a combined vaccine for typhoid and the paratyphoids. As a result of these observations he concludes that the combined vaccine should contain 1,000 million of each of the three organisms per mil and that the initial dose should be half a mil and the second one mil. The agglutinin curve for each of these three organisms varies in different persons, both in the maximum, reached and the precise day of its attainment, but in general the height is reached from the first dose between the sixteenth and twenty-fourth day after injection. Following this the titres fall rapidly at first and slowly later. The administration of the second dose on the sixth or seventh days after the first checks the rise of the agglutinin titres and delays it somewhat; if given between the thirteenth and sixteenth days, or before the time of maximum, the effect is but a slight nick in the rise of the titres, or a brief plateau; if the second dose be given later than the twenty-fourth day the fall in the titre is temporarily arrested after a few days and then slowed down materially. The chief effect of the second dose, given within a few days of the maximum of the titre produced by the first, is to delay the fall in agglutinin titre and prolong the period of effective immunity. It seems probable that it would be best to postpone the administration of the second dose to the eighteenth to twentieth day after the first.

Edema with Chloride Retention, Sequel to Dysentery.—Labbe and Marcolles (Presse Medicale), report two cases of this description. In the first the edema appeared in the stage of decline of an attack of dysentery of intermediate severity. In a few days the edema ascended from the feet to the scrotum, prepuce, abdominal wall, and lower thorax. The urine was scanty, but contained no albumin, sugar, nor casts. The lungs and heart were normal, and the liver small, the conjunctivae, however, showing a subicteric hue. Under a diet of milk and vegetables, with salt restriction, and theobromine, the output of urine rapidly rose to above normal and the edema promptly disappeared. That chloride retention had existed was indicated by the elimination of thirty-seven grams of salt in a single day during the period of diuresis. The cause of the edema might have been a disturbance of the hepatic functions, the case then belonging to the group of hydropigenous hepatitis studied by Le Damany, in which the liver cell creates the chloride retention as does the renal cell in hydropigenous nephritis. The dysentery might, however, also have been the cause of the edema. In the second case anasarca again appeared as a complication of dysentery, in this instance a severe case with profound anemia. Treatment was similarly effectual. In this patient there were no traces of hepatic disturbance, and the cause of the edema was quite obscure. Cases of edema with chloride retention occurring in the course of severe, nondysenteric enterocolitis in children have been reported by a number of pediatricians.

The Essentials of Success in Prostatic Surgery.—Watson (The Canadian Medical Association Journal), says that there has been a notable reduction in the mortality following prostatectomy in the hands of competent surgeons and this has been due to improvement in operative technic, but in a much greater degree, to the careful study of the individual patient and the determination of his physical condition by the recent clinical and laboratory methods.

The first essential, obviously, is to arrive at a correct diagnosis of the nature of the obstruction. The next step, and perhaps, the all-important one, is the ascertaining of the exact physical status of the patient; this goes hand in hand with the requisite, proper preliminary treatment. Here, much can be gained by a study of the capacity of the kidneys to

excrete dye and by an examination of the blood for retention products of nitrogenous wastes. The third point of importance is the selection of the proper time for operation. One should defer operation upon cases in which there is marked cardiovenal involvement or in which there is epididymitis or pyrexia.

For the general operator the suprapubic route of operation is safest; in the hands of trained, experienced surgeons, the pirneal route gives a lower mortality. Watson quotes the latest figures of Young.

The post-operative care of prostatectomized patients is not difficult but calls for no relaxation of the vigilance and skill required during the entire course of care of these cases. Hemorrhage, acute retention, epididymitis, and thrombosis, though not frequent as post-operative sequelae, occur even under the best possible care. They should be met with promptly and rigorously.

Bronchopulmonary Spirochetosis.—Violle (Bulletin de l'Academie), from a naval hospital at Toulon, France, reports thirty cases of this affliction, originally described by Castellani in India over ten years ago. The most striking feature of the disease, which is due to the *Spirochaeta bronchialis*, was the constant reddish coloration of the sputum, due to blood and causing the fluid to resemble currant juice. This peculiarity is in itself pathognomonic, and occurred in every case of the author's series. Half the cases had been diagnosed as tuberculous, but tubercle bacilli were never found, while smears stained with silver nitrate by the method of Fontana, as modified by Tribondeau, showed innumerable spirochetes of varied sizes and shapes, often with practically no other bacterial accompaniment. These spirochetes do not occur in the nasal mucus, urine, nor blood. The Bordet-Wassermann reaction is negative. The affection begins insidiously, and the signs are those of ordinary bronchitis or at times of apical bronchitis or of basal congestion. Cough is frequent, raucous, and chiefly nocturnal. The general condition remains good and there is no fever, and but slight headache. The affection runs its course in an average period of one month, but relapses are frequent. It is mainly dangerous because it favors tuberculosis, pneumonia, and bronchopneumonia, the germs of which enter the lung tissue at the points of bleeding. This danger is transmitted to other individuals by the spirochete

carriers. The disease seems to be very contagious, was probably brought to France by Asiatic contingents, and appears likely to become acclimated there, one-fourth of the author's thirty cases occurring in Frenchmen. It is transmitted by spores.

Cerebral Edema.—Rawling (British Medical Journal), has seen a considerable number of cases presenting evidences of cerebral edema as the result of heat stroke, cerebral malaria, shell shock, etc., and has come to the belief that the condition is due in part to a damage to the veins of the brain and its membranes which reduces their capacity for absorbing the excess of exuded fluid. Lumbar puncture sometimes temporarily reduces the symptoms of the increased intracranial pressure, but at other times it proves of no value, or even yields no excess of fluid, probably due to the blocking of the communication between the brain and cord. The most satisfactory form of treatment has been the performance of a subtemporal decompression with incision crucially through the dura and followed by replacement of the temporal muscle. This permits the escape of the fluid into tissues whence it can readily be absorbed and after some time the normal functions of the cerebral sinuses and veins are restored. In practically all of the cases in which this operation has been performed by the author the results have been very good and quite permanent. The operation is not dangerous and is recommended for all severe cases, in which improvement has not taken place after three months of medical treatment.

Glucose Applications in Certain Superficial Infections.—Benians (British Medical Journal), points out that most pathogenic bacteria are able to ferment glucose with the production of a definitely acid medium. Many of the toxic products of bacteria are best formed in an alkaline medium and their production is inhibited by an acid reaction. The tryptic digestion of proteins which causes the stinking discharges of wounds and in infections is inhibited in an acid medium. On the strength of these facts Benians has tried the local application of glucose solutions in the following conditions. In bromidrosis it was effective in the only case on which it was tried. In ozena the application of twenty-five per cent. solution of glucose to the interior of the nose twice daily has led to the production of an acid

nasal secretion, the partial or complete destruction of the specific bacilli, and the disappearance of the foul smell and the crusts. Better results, however, seem to follow the similar use of glycerin. Some cases of chronic otorrhea seem to have responded well while others have not. Long standing purulent vaginal discharges have been cleared up completely in most cases by douching twice daily with twenty-five per cent. solution of glucose, or by the nightly introduction of a vaginal suppository containing twenty-five per cent. of glucose in a gelatin base.

Effect of Convection Currents on Agglutination.—Topley and Platts, in The London Lancet, present the results of a number of experiments which show that the occurrence of active convection currents in the tubes increases the rapidity of agglutination materially, especially in the case of bacterial suspensions which agglutinate rather poorly. The presence of the convection currents does not seem to alter the maximum titre of the serum to be tested. The quality of the agglutination is also altered favorably, the floculi being large and very readily seen with the naked eye. Often the titre obtained after two hours of incubation with convection currents is not equalled in twenty-four hours with the same serum and suspension in the absence of such currents. The production of convection currents is best secured by immersion of the agglutination tubes in the waterbath at 55 deg. C. to such a point that the water rises to only 1-6 to 1-4 the height of the column of fluid to be tested. The adoption of such a technic gives uniform results and materially shortens the required time of incubation.

The Acetonemic Syndrome in Children.—Remond (Bulletin de l'Académie de Médecine), deem cyclic vomiting only a single, separate manifestation of the acidosis of children. The cases of acidosis in which it is absent are more numerous than those in which it is present. The underlying condition is an essential functional disturbance of the liver, small intestine, and pancreas. Passage of the fecal matter from the small to the large bowel suddenly stops. The stools consist merely of epithelial debris and mucus, are colorless and practically odorless, vary greatly in frequency and amount, and may later become blood stained or of the green color of spinach. At once or within five or six hours, acetone and diacetic acid begin to appear in

the urine, and in a day or two the breath is found to have an acid or stale odor. The temperature may be markedly subnormal or febrile, and often exhibits a paradoxical curve. A few of the cases encountered manifested nervous symptoms suggesting meningitis. Others simulated beginning typhoid fever or cholera infantum, while still others were first seen in a condition bordering on coma. The treatment applied consisted regularly of subcutaneous injections of a total extract of fresh pancreas and of sodium bicarbonate in large doses. In one particularly grave case a one per cent. alkaline solution was administered intravenously. In the remainder, from twenty to sixty grams of bicarbonate a day were given by mouth as well as by continuous rectal installation. Temperature, nervous condition, stools, and urine returned to normal in a few days. Acetonemia through pancreatic insufficiency plays, as shown by cases previously wrongly diagnosed and treated unsuccessfully by other measures, a far more frequent role in children's diseases than has hitherto been thought. In all intestinal or nervous affections in children, an acetone diagnosis should be promptly made. The condition being recurrent, prophylactic measures should be instituted, such as elimination of cooked fatty articles from the diet, as well as of excess of meats, and the systematic ingestion of alkaline waters. The Vichy treatment seemed highly efficacious.

The Retina in Hemeralopia.—Magitot (Paris Medical), states that the power of adaptation of the eyes to a reduction of light depends closely upon the state of nutrition of the pigmented epithelium of the retina, which in turn nourishes the rods and cones. Hemeralopia is not due to a single cause, but to many. Sclerosis of the choroidal capillaries, e. g., may produce it by reducing nutrition of the pigmented epithelium, and toxic material in the blood, by poisoning the epithelium and arresting the secretion of visual purple. Lavron has reported that in a certain district of Russia eighty per cent. of all adult males are afflicted with night blindness, due to poor food and excessive physical labor. Hemeralopia may occur with or without ophthalmoscopically visible lesions of the retina. It is especially important in certain frequent syphilitic conditions, such as retinitis or chorioretinitis pigmentosa, which may be ascribed to parasitic thrombosis of the nutrient capillaries. Hemeralopia unac-

companied by visible lesions may be due to various causes. One variety is the so called essential hemeralopia, congenital and often inherited. In old men partial hemeralopia is due to retinal capillary sclerosis; premature senescence particularly in alcoholics, produces the same result. Powerful electric shocks cause hemeralopia, by arresting the secretion of visual purple and quinine, either by direct toxic action or spasm of the capillaries. Certain nephritic and hepatic affections are also toxic causes of it. Among soldiers it is rather frequent. Some of these cases have had a relative hemeralopia in civil life, due to myopia and thinning of the choroid, the condition being then aggravated by hard trench life, diet almost exclusively of meat, and attacks of enteritis. Chronic alcoholism has proven an important factor, acting in conjunction with fatigue and lack of sleep, generally in men between the ages of thirty-five and forty-five. Rest in bed, a milk diet, and diuretics, followed by a meatless diet, soon improve bona fide cases. Malingerers can be detected by inquiry among their comrades in arms.

Intolerance to Cod Liver Oil.

The average cod liver oil preparation soon becomes irksome to women and children, or to any patient convalescing from a long illness—and yet it is in just such instances that cod liver oil serves to happiest advantage.

It was to obviate this draw-back of cod liver oil that brought about the preparation of Cord. Ext. Ol. Morrhuæ Comp. (Hagee), and it was the recognition of the fact that Cord. Ext. Ol. Morrhuæ Comp. (Hagee) offers everything to the patient that the plain oil does except a gastric burden, that has given it such wide popularity with the profession.

An Emergency Method of Transfusion of Citrated Blood.—Thevenard (Presse Medicale), in an extremely urgent case resorted, in the absence of special transfusion apparatus, to a very simple technique, which yielded excellent results. Into a graduated receptacle for saline solution, previously sterilized, is placed an appropriate amount of sodium citrate, e. g., 1.5 grams for 500 grams of blood. The blood is collected directly into the receptacle. The outlet communicates, through rubber tubing, with an injecting needle having a short bevelled portion. If graduated receptacle is not available, any receptacle with an outlet can be used, its capacity having been determined before

use by means of water poured from a litre bottle. The donor is placed on a bed near the recipient, tincture of iodine is applied at the bend of the elbow, and the blood is obtained in requisite amount by the old fashioned method of venesection. Meanwhile the receptacle is constantly shaken or the blood agitated with a sterile rod or instrument to distribute the sodium citrate well through it. The blood is then at once transfused into the recipient by intravenous injection. The latter is generally administered in one of the veins at the elbow, but where more convenient the external saphenous at the malleolus can likewise be utilized. With the receptacle placed about 1.5 metres above the bed, 500 grams of blood will flow into the recipient's vein in about ten minutes. In this procedure local anesthesia is not required. If necessary the receptacle can be replaced by a sterile funnel of known capacity and the vein puncture needle by a large hypodermic syringe needle.

Quinine in the Treatment and Prevention of Malaria.—Ross (Journal of Tropical Medicine and Hygiene), reports on the results of treatment in about 2,500 cases of malaria, returned to England, and nearly all of long duration. The infections were, for the most part, benign tertian. The treatments tried out were classified as antirelapse quinine prophylaxis, short sterilizing treatment, long sterilizing treatment, and mixed treatments. The treatment in each class comprised different salts and preparations of quinine, given by mouth and by subcutaneous, intramuscular, and intravenous injection. The aggregate result was twenty-seven per cent. of ascertained relapsing cases. A control was afforded by 192 men who were watched without any quinine treatment at all; of these, eighty-six per cent. remained ill and forty-six and five-tenths per cent. relapsed within twenty-seven days. Short intensive treatment by large doses of quinine—up to 180 grains of sulphate or hydrochloride in three days—can be very well borne by patients, and, with rest, stimulants, and good after treatment, effect a substantial proportion of cures. The same applied to the third group, in which some cases received over 1,000 grains of quinine in four weeks, with large intramuscular doses at the beginning of this period. Relapse in these two classes was not any less frequent, however, than in cases treated less heroically with relatively small doses—about sixty grains a week. The latter

dose gave the best results both as regards prevention of relapse and the well being of the patient. The amount must not, however, be less than a daily dose of about ten grains. As a whole, no conspicuous advantage was found in either the intramuscular, intravenous, or oral methods of administration. Urine examinations pointed to a tendency for the excretion of quinine, in whatever doses given, to reach a concentration of seven to eleven grains per litre of urine, and did not favor the view that the drug is eliminated with a different degree of readiness when given by mouth than when given by other routes.

Kronig's Latest Results from Cancer Operations.—According to one of Kronig's assistants many cases of cancer treated by the knife at the Freiburg Gynecological Clinic have been followed up for 10 years with the discovery that only 5.2 per cent. of the women had survived that period. Hence Kronig is henceforth for X-ray therapy.—Correspondenz-Blatt für Schweizer Aerzte.

Discontinuous General Anesthesia.—Chaput (Presse Medicale), recommends administration of the anesthetic—ether, chloroform, or ethyl chloride—in an amount just sufficient to overcome sensibility and movements on the part of the patient. The anesthetic is then stopped and the surgeon operates until the patient moves enough to interfere with his work. The inhalations are then resumed until the condition is such as to permit of correct operative work, the anesthetic then stopped, and the surgeon's work resumed, etc. Advantages of this type of anesthesia are as follows. The corneal reflex persists throughout, the face remains well colored, the pupils but little changed, and the pulse strong. Vomiting during the operation never occurs, and the heart and respiration never give way. At the conclusion of the anesthesia, the patient wakes up almost at once, with the face of good color and features placid. There is no post operative vomiting, no malaise nor shock, no icterus; and in the case of operations above the level of the umbilicus the patient may get up the same day and go home. The procedure may be combined with local and spinal anesthesia; only an infinitesimal amount of chloroform is then used. Discontinuous anesthesia was employed by the author in 100 cases without the least untoward result.

Insomnia.—From the standpoint of safety and efficiency of action there is no hypnotic or soporific more serviceable than Peacock's Bromides. Two or four teaspoonfuls given an hour or so before retiring usually produces a natural, restful sleep of six to eight hours duration from which the patient awakens refreshed and invigorated.

Diagnosis of Sciatica.—Roussy in the *Presse Medicale*, gives some illustrations showing the attitudes inevitably assumed with true sciatica in doing certain exercises. For example, in trying to bend over and touch the floor, the knees stiff, the knee on the side of the sciatica is necessarily bent, or else the foot kicks out behind. When the patient sits on the floor with legs straight out, the knee on that side is always bent a little, and it cannot be fully extended. Pressure on the knee to extend the limb straight causes a sharp pain in the sphere of the sciatic nerve. Another test is the pain felt when the trunk is bent forward. The trunk has to be kept within a given angle to avoid increasing the pain of the sciatica. This unilateral Kernig's sign was found positive in 63.6 per cent. of his cases of true sciatica. The standing Lasegue sign was positive in 63.45 per cent. By this term he means the outward rotation of the tip of the foot and the knee on that side as the trunk is bent over, trying to touch the floor, the heels solidly planted, about 20 cm. apart. With true sciatics, squatting does not aggravate the pain, while the simulator goes through much groaning as he assumes a squatting position.

Jaundice.—The jaundice caused by catarrhal inflammation of the biliary passages rapidly responds to the cholagogue effect of Chionia. One to two teaspoonfuls three times a day will relieve the local congestion, increase the flow of bile and promote hepatic elimination.

Ulnar Nerve Paralysis.—Spriggs and Clarke, in *The London Lancet*, point out that the condition of *main-en-griffe*, so common in ulnar paralysis, can be produced in the cadaver by simultaneous traction on the extensor and flexor tendons of the forearm, or in the living person by simultaneous electrical stimulation of these two groups of muscles. Under these conditions the forearm muscles are acting while the small muscles of the hand are not. If, under the conditions named, the tendon of one interosseus also

be pulled upon the deformity does not result in that finger. If the interosseus tendon on each side of the finger be joined to that of the flexor sublimis just distally to where the latter splits, the fingers are given a useful prehensile power when the flexor tendon is pulled upon the *main-en-griffe* deformity is prevented. On the cadaver this operation is comparatively easy and it is suggested that it be applied to correction of the deformity in cases of ulnar paralysis presenting the *main-en-griffe*.

"Paraldehyd" possesses many of the good without the evil qualities of chloral. Used in *Insomnia* resulting from various causes. The objectionable taste of the chemical is, to a great extent, disguised in Robinson's Elixir Paraldehyd (see page 14 this issue) which is an elegant preparation.

Intestinal Stasis.—Intestinal stasis, as Lane and others have shown, is the chief etiologic factor in countless ills. The secret of its correction is not the routine use of laxatives and cathartics, but a stimulation of the physiologic processes throughout the intestinal canal and a gradual increase in the tonicity of the bowel structures. As a means of accomplishing the foregoing, *Prunoids* have proven effective and dependable. One or two at bedtime, or in intractable cases of long standing, a *Prunoid* three times a day, will soon establish the physiologic activity of the intestinal tract, and assure regular movements from the bowels without griping, distress or reactionary constipation.

Involvement of the Cervical Cord through Vertebral Luxation.—Roussy and Cornil (*Presse Medicale*), report the cases of two soldiers who showed immediate quadriplegia, the one after dislocation of the atlas and axis with fracture of the odontoid process, the other following backward luxation of the fourth cervical vertebra. The second case developed sphincter disturbances. After a period of spinal coma, lasting six weeks in the first patient and four months in the second the quadriplegia underwent retrogression in a crossed manner, return of motion taking place simultaneously in the upper extremity of one side and the lower extremity of the other. Ten months after the injury motor recuperation was almost complete in both cases, the first patient still showing traces of left sided hemiplegia and distinct hyperesthesia in

the great occipital distribution, the second a right sided brachial monoplegia and hyperesthesia of the third cervical. These cases, corroborate the observations of Marie, Benisty, Claude, and L'hermitte to the effect that quadriplegia from involvement of the cervical cord is far from being always as grave as it was thought before the war. The early clinical signs often greatly exceed the actual lesions, and a prompt unfavorable prognosis may prove erroneous.

Treatment of the Wounded by Means of Electricity.—Seeuwen (Archives of Radiology and Electrotherapy), has treated paralysis, paresis, neuralgia and neuritis with the faradic, galvanic or sinusoidal current. Every case of recent paralysis is carefully tested and subjected to one month's treatment, even if there is no response to electric current. Splints are used to keep the paralyzed muscles relaxed. When a muscle does not respond at all the interrupted galvanic current is used. Neuralgia is treated with the galvanic current combined with the whirlpool bath and massage for the limbs. Facial neuralgia is at times treated with a galvanic current of great intensity, from sixty to 100 milliamperes. For cases of neuritis the electric treatment consists of galvanic baths of from fifteen to twenty minutes' duration. A current of twenty to forty milliamperes is sufficient and for the last two or three minutes slow interruptions with a metronome and a milliamperage just sufficient to contract the muscles are given. Treatment must be carried on over a long period of time, from ten to twelve months. Hysterical paralysis is best treated with suggestion and strong faradic current applied with a roller or the brush. Paralysis following injury to the brain or the spine is treated by massage and general and local applications of electricity.

Cerebrospinal Meningitis From Streptothrix (La Pédiatrie).—G. Rutelli describes the case of a girl, aged 6 months, admitted with symptoms of cerebrospinal meningitis. Ten c. c. of fluid obtained by lumbar puncture was turbid and formed dense white clots after a few minutes. The nuclear leucocytes being prevalent, several erythroblasts and abundant filamentous organisms resembling streptothrix. An emulsion of this organism injected into the peritoneum of some white mice caused death in three days. The patient's blood did not agglutinate them. A second lumbar puncture gave

identical results. Urotopine was given in doses of 1 grm. daily. The temperature continued irregular and intermittent but never rose above 38.5 deg. C. The sequel of the case is unknown as the parents removed the child from the hospital.—The British Journal of Diseases of Children.

Gall-Stones.—While it is generally conceded that there is no medical treatment for cholelithiasis, it is a fact that a teaspoonful of Chionia three times a day, through its cholagogue effect and decongestive action on the biliary passages, will go far to prevent the conditions which are so largely responsible for attacks of gall-stone colic.

Causes of Chorea (Arch. de Med. des Enf.)—J. Comby insists that a slight acute encephalitis is the anatomical substratum of this disease. Out of 39 cases, in 6 evidences of hereditary syphilis were forthcoming, 7 of the 39 gave positive Wassermann reactions, 4 gave feeble or doubtful reactions, and 27 gave negative reactions. Clinical results do not give any satisfactory proof that the disease is syphilitic. Twenty-four of the 39 reacted positively to von Pirquet's test, but this was only a coincidence as tuberculosis is found in over two-thirds of hospital post-mortems. Evidence of articular rheumatism was only present in 6 cases and endocarditis in 8. In one case in every three evidences of rheumatism are forthcoming, an exactly similar result to that obtained for syphilis. Rest, milk diet, and arsenic in gradually increasing doses are strongly advocated.—The British Journal of Diseases of Children.

Abuse of Drainage Tubes.—Hathaway (British Medical Journal), urges surgeons to take courage and give up the use of drainage tubes, practising primary suture and thus preventing the dangers of secondary infection. In wounds of the extremities he practises complete primary excision followed by suture. Where bone is involved he cleans out part of the medullary cavity and fills the dead space with a mixture of thymol, perolatum and candle wax, closing the wound by suture. He even has gone so far as to close the incision in cases of perforated gastric ulcer, pus tubes, gonococcal peritonitis, and empyema after treatment and mechanical cleansing of the peritoneum or pleura. His results have been excellent.

Wounds of the Ampulla of the Carotid.—Lefevre (Presse Medicale), notes that triple ligation of the common carotid and both its branches for extensive injury of the carotid ampulla is attended with the same degree of risk as regards the brain as ligation of the internal carotid alone. In ligation of the common carotid alone, the condition may be spontaneously improved by reflux of blood through the external carotid into the internal carotid. Theoretically, anastomosis of the internal and external carotids seemed to Lefevre advisable, as in injury of the carotid ampulla necessitating the triple ligation or in ligation of the internal carotid alone, the risk as regards the brain would thus be reduced to that attending simple ligation of the common carotid. This procedure was actually carried out in a case of stellate wound of the ampulla, suture being impossible. The two carotids were joined in end to end suture by one layer of silk thread sterilized in vaseline. Ischemic paralytic manifestations were noted on the day after the operation, possibly because of kinking at the point of suture or a dressing too tight around the neck. These were transitory, however, and when the patient left the hospital six weeks later, there remained only some diminution of power on the opposite side of the body.

Repopulation of Germany.—The Reichstag is concerned with two problems, viz., venereal diseases and Malthusianism, which threaten the birth rate. It is recommended to get the workers away from the cities, where they can have small detached cottages in which light and country air and nutritious food can be obtained. This course would tend to increase the number of births. It has been learned that about half of the mutilated soldiers are marrying women older than themselves, a custom which is pernicious for repopulation. To check infant mortality more children's clinics will be established.—*La Presse Medicale*.

Aviators and Blood Pressure.—Hirschlof, speaking at a medical meeting at Königsberg, said *The London Lancet*, that the blood pressure was raised after a flight, particularly in men over thirty. The amount of hemoglobin and the number of the red cells were invariably found to be increased in men who had been flying for some time. The lymphocytes also were more numerous. Flying provoked no organic changes in the heart other than those associated with athlete's heart.

Another speaker suggested that the reason why mountain climbing might induce certain symptoms at an altitude of only 3,000 metres, whereas the airman did not suffer till he had reached a considerably greater altitude, was that the airman had not exerted himself much in getting to this height.

Treatment of the Amebic Character.—H. L. Watson-Wemyss and Bentham, in *The London Lancet*, find that the best results are obtained in such cases by a combined method of treatment which consists of the daily administration of sixty-five milligrams (one grain) of emetine by hypodermic for five consecutive days and the simultaneous daily administration orally of 0.18 gram (three grains) of emetine bismuth iodide in salol coated pills for twelve days. One milligram (one sixtieth grain) of strychnine was combined with the injections of emetine to combat the depressant effect of the drug. Diet was found to have no influence on the effects of treatment so long as it was light and readily digestible. By this plan ninety per cent. of the cases were cured with one course of treatment.

Building Up After Typhoid.

As a means of building up the system following typhoid fever cod liver oil is of the utmost advantage for it supplies the very elements which have been drained away during the protracted illness. But it should be remembered that owing to the impairment of digestive functions it is necessary to choose a cod liver oil product of palatability and one easily assimilated, otherwise the weakened gastric apparatus is subjected to too great a trial.

Cord. Ext. Ol. Morrhuæ Comp. (Hagee) contains everything of therapeutic or nutritional value that the plain oil has—hence its superiority to the plain oil. Its acceptability gives it a special sphere of usefulness in women and children.

Chronic Constipation.—In the treatment of chronic constipation, we are learning that we can expect satisfactory results only in so far as we are able. Prunoids owe their gratifying efficiency to their capacity for promoting the natural functions of the intestinal canal. Thorough evacuation follows as a physiologic result, without griping, distress, or the reactionary constipation which is so common after the use of ordinary laxatives and cathartics.

Intravenous Arsenobenzol Treatment Combined with Lumbar Puncture.—Tzanck and Bernard (Paris Medical), deem all intraspinal injections of arsenobenzol unsafe, however small the dose, in late syphilitic meningo-myelitis. Sicard having shown that such injections alter meningeal permeability, the reaction locally being such as to permit drugs introduced intravenously to pass through the pial carrier, the authors have been seeking to obtain the same meningeal perturbation and pial permeability by simple spinal aspiration by lumbar puncture, intravenous administration of the arsenical being thus alone required. They give successive injections of 0.15, 0.3, 0.45, 0.6, 0.75, 0.9, and 0.9 gram of neoarsenobenzol, each followed within five minutes by lumbar puncture. The amount of spinal fluid removed must always exceed ten mls, and the fluid obtained is used for cell numeration, albumin estimation, and the Wassermann reaction. The lumbar puncture regularly proved less disturbing to the patient than in cases with normal spinal fluid; the patients welcomed the punctures because they relieved their headaches. In some cases the combination of intravenous injections and lumbar puncture alone relieved the headache, either measure practised independently failing to do so. Eleven cases were treated, including one of tabes, one of paresis, two of meningomyelitis with arteritis and paralysis, one of Erb's syndrome, and seven of chronic syphilitic meningitis of various types. Pronounced improvement was noted in over two-thirds of these cases, both serologically and symptomatically. Objective signs persisted, but the course of the disease was arrested. While less efficacious than intraspinal arsenical injections in meningitis cases of the secondary stage, this treatment is the only safe procedure where late organic involvement of the neuraxis is considered a possibility.

The Neglected Therapy of Convalescence

The physician of education and experience, who keeps in touch with the progress of medicine generally, is well informed as to the treatment of most of the "thousand and one" ills that he is called upon to combat. The diagnosis and treatment of acute conditions as well as the successful management of the more chronic affections are subjects which he is constantly investigating and studying. It so happens, however, that after the dangerous shoals of medical navigation have been successfully negotiated and

when the crisis or danger point has been passed, the physician is all too liable to relax his vigilance and to allow the patient to convalesce without sufficient attention to the therapeutic details of this important period. While the feeding of the convalescent is of great importance, the medico-tonic treatment is equally essential, in order to improve the appetite, tone the digestive, assimilative and eliminative functions generally and to hasten the time when the patient shall be once more "upon his feet." Among all of the general reconstituent and supportive measures in the therapy of convalescence, none is more essential than the reconstruction of a blood stream of vital integrity and sufficiency. Pepto-Mangan (Gude) is distinctly valuable in this special field, as it furnishes to the more or less devitalized blood the necessary materials (iron and manganese) in such form as to assure their prompt absorption and appropriation. One especial advantage of administering these hematitics in this form, is that digestive disturbance is avoided and constipation is not induced.

Malaria.—Grehant (Bulletin de l'Académie de Médecine), reports constant success in nine years of practice in the French colonies from the following plan of treatment: Any malarial patient whose temperature rises to 39 deg. C. is given, in the absence of albuminuria, intramuscular injections, for three successive days and at twenty-four hour intervals, of from 0.75 to one gram of quinine sulphate, according to his size. Where, after a time, a fresh paroxysm occurs, another like series of injections is made. Were this plan generally and systematically followed, most malarial cases would be rapidly and permanently cured. Among illustrative cases the author cites that of his own person. In 1911, on the Niger, he had several attacks of fever and finally a grave bilious remittent condition. Injections of saline solution and of quinine, administered by his wife, saved his life. Subsequently he had no more attacks of fever and led an extremely active and fatiguing life.

Slow Convalescence

The strong, virile, robust individual who emerges successfully from the attack of the pneumococcus, the bacillus influenzae or the mixed infection of typhoid, is more than likely to recuperate rapidly from the depressing effects of the systemic disease from which he has suffered, and his convalescence will be prompt and

uninterrupted. It is not so however, with the patient, whose vital resistance was at a comparatively low ebb before the disease invasion. In such cases, tardy convalescence is the rule, unless active measures are taken to revitalize the blood and thus restore and repair the essential solid elements—the red cells, and the oxygen-carrying hemoglobin. Pepto-Mangan (Gudge) performs just this necessary service by furnishing the needed organically combined iron and manganese to build up the blood forming functions of the organism. It can also be depended upon to improve the appetite and act as a general tonic, and reconstructive, without deranging digestion or causing constipation.

The Treatment of Malaria.—Provisional instructions for the treatment of cases of malaria in the United Kingdom, are based upon work done in special malaria wards in England during the preceding five months by a number of specially qualified medical officers. No line of treatment yet tried (and more than 20 different lines have been tried) has sufficed to eradicate the infection entirely in more than a small percentage of cases, and no clear indication has yet been obtained that any one line of treatment is much better in this respect than any other.

A series of new instructions is given as regards dosage and other points. It has been decided that every case of malaria should be given sixty grains of quinin every week until he has been free from malarial fever for at least sixty days. The dose may be administered intramuscularly or by the mouth in the form of sulphat, hydrochlorid, or bi-hydrochlorid, and it may be given at the rate of ten grains daily on six days in the week, or of fifteen grains daily on four days in the week, or of twenty grains on three days in the week, or of thirty grains on two days of the week, on consecutive days or not. The individual dose may be five grains, ten grains, or more, in solution, powder, or tablet, as convenient. It will thus be seen that it is not easy to stamp out the infection of malaria.

This is pretty much what the old clinicians found and taught. The only way to ensure success is to continue the drug over long periods, and the plan of giving sixty grains a week is useful, but it must be kept up for two months or for three if possible. The difficulty in dealing with large bodies of men is to be certain that

they will go on taking the drug regularly; it is in private practice that the best results of quinin treatment are obtained. A word of warning may be given as regards pills and tablets; they may, especially if sugar-coated or old, pass quite unchanged, and in such a case the patient is not being treated at all. Fresh tabloids not sugar-coated seem to dissolve very well, however, but if symptoms of fever continue the possibility that they are not being dissolved should be borne in mind.

Protection Against Bronchial Inflammations.

With many, cod liver oil offers a certain degree of protection against the bronchial inflammations of cold and changeable weather, and when we recall that it not only increases bodily resistance, but exerts a definitely selective action on the bronchial mucosa, the reason for its value as a protecting agent against bronchial inflammations becomes quite obvious.

An objection that obtains with plain cod liver oil, its lack of palatability, cannot be held against Cord. Ext. Ol. Morrhuae Comp. (Hagee), a fact that gives this cordial the greatest popularity among experienced clinicians. Cord. Ext. Ol. Morrhuae Comp. (Hagee) contains every virtue that the plain oil has, and furthermore, is palatable and well tolerated over long periods. It may be given indefinitely without causing any distress to the patient.

Give it to those of your patients who are subject to bronchial inflammations, and help them escape these winter evils.

Polyarthrititis During Arsenobenzol Treatment.—Chabanier and Bleton (Presse Medicale), state that during the treatment of syphilis with the arsenobenzols, especially the neo variety, there appears rather frequently a general polyarthralgia, localized mainly around the joints, and occurring under the same circumstances as icterus and neurorrecurrences. The pains last three or four weeks, and are apparently not influenced by the treatment, which can be resumed as soon as they have disappeared. Since such pains are sometimes noticed in non-syphilitic individuals subjected to arsenobenzol therapy, they are probably to be ascribed rather to a direct action of the drug than to a localization of the syphilitic infection about the joints under the influence of the treatment.

Gunshot Wounds During the Campaign in East Africa.—Fyfe and Burman (Journal of British Royal Army Medical Corps), conclude as follows with respect to such wounds: 1. Sepsis is slight and of low virulence in cases of wounds caused by rifle bullets in East Africa. 2. Careful note taking in all cases is of great value. 3. In all cases of bullet wounds injury to nerve is suspected or not. 4. The main bloodvessel below the wounded part should be compared with the corresponding vessel on the opposite side of the body. 5. The mental condition should be carefully followed throughout and after treatment. 6. all cases of rifle bullet wounds should be X-rayed in two places, whether the bullet is lodged or not, and immediately preceding operation also if X-ray on one occasion fails to show the presence of a lodged bullet, two or more photographs should be taken before deciding upon the absence of a piece of metal. 7. Early movements should be carried out in all cases to avoid contractions and deformities. 8. Saline baths have been found most efficacious treatment in all cases of rifle bullet wounds.

Our readers' attention is called, elsewhere in this issue, to a recent announcement of considerable importance to the profession having to do with Diphtheria Antitoxin, Lilly.

Despite government regulations there is possible a wide range of difference in antitoxin, and distribution and packages differ as well. Diphtheria Antitoxin, Lil-

ly, is now supplied in one type of package and at an attractive price. It is a purified, highly concentrated product, only the globulins containing the antitoxic bodies being used. Diphtheria Antitoxin, Lilly, is easy to secure through the drug trade from stocks kept under proper storage conditions.

The Most Easily Assimilated Fat.

Of all the fats, cod liver oil is the most easily assimilated, and herein lies its great food value. Now, if the oil's nutritious properties can be enhanced by processes that make it more easily assimilated, and other valuable properties added to it, as is done in Cord. Ext. Ol. Morrhuae Comp. (Hagee), the ideal builder is at hand.

In the manufacture of this product every law relating to the nutritious properties of cod liver oil is observed. It is offered to the profession in the most efficient of reconstructives.

Chronic Gastritis—The notable tonic effect which Seng exerts on the glanular structures of the stomach make it one of the most effective remedies at the physician's command in chronic gastritis. One or two teaspoonfuls, shortly after eating, will increase the physiologic activity of the stomach and often afford pronounced relief from distressing symptoms when other measures have failed completely.

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No. 5

OBSTETRICAL SUGGESTIONS.

By J. Beverly DeShazo, M. D., Ridgeway, Va.

Twenty-six years without a stillbirth impels this article. This practice has been done in the towns of Ridgeway, Martinsville, Stoneville, Leaksville, and Spray, and the surrounding country distracts with other doctors assisting in less than half a dozen confinements.

Cultivate the confidence of every patient by having a real sympathy for them and incidentally impress them with your ability to see them through to a happy termination of labor with the minimum amount of pain.

If possible, see every patient before the end of the eighth month to instruct on details, as well as, to be sure proper laxatives are taken and kidneys are satisfactory. Do not be alarmed at blood pressure if the excretions are approximately normal.

For the acute pain of cervical dilatation, give 1-100th grain of atropine every two hours till the throat is dry or pupils are dilated. Rarely it is necessary to add 1-6th grain of morphine. Atropine usually dilates the cervix promptly. In the first labors it is better to give a full dose of both and go home. This does not stop labor, but frequently upon returning, the patient has slept well and the cervix is greatly dilated.

For tardy pains, keep the patient rocking in a chair, or else walking briskly every half an hour till wearied, and administer 1-30th grain of strychnine every 3 and 1-2 hours and strong coffee between doses. In malarial districts, 5 to 10 grains of quinine may be added as required.

Doctors who can not tell the condition and position of the child should be required to study anatomy and diagnosis till they can. Afterwards, in case the head is not in the normal position for descent, before the waters rupture, turn the occiput either to the right or left hip so it can progress readily. Hold it in this position during several pains while the patient rests on her shoulders and heels so as to establish it there. This turning is easily done by pressing the head from above with one hand and turning with the finger of the other on the occiput, provided it is done between pains. After

the waters have escaped it is more difficult to turn the head, however, it can be done during any condition not pathological by being patient and persistent.

Never rupture the membranes till the head is practically through the cervix, and not at all in primipare, nor should petuitrin be used in the latter cases, is a safe rule to follow. These follies, in the order named, coupled with the attempt to deliver the first call, has resulted in the death every year of thousands of healthy children. It is apparent to every careful observer that it is always most difficult to resuscitate children after using much petuitrin. Only half the usual dose or less is safe in nervous cases, but slow, heavier and indifferent patients tolerate full doses when required.

Chloroform during the second stage, one or two inhalations with pains is safe, satisfactory, and a practice builder. It is, however, best to keep it below the point of insensibility except as the head is delivered.

Forceps are life preservers. When indicated show the patient how thin they are and apply them before an anaesthetic is administered, assuring her that you can apply them without pain and do it. In this way no injury is done to mother or child. Of course, in convulsions this is impossible, but always bear in mind to use them when the patient is unconscious is dangerous and the way of safety lies along the direction of least resistance while the thighs are at right angle to the body.

Do not attempt the high operation unless urgent and you have an intelligent assistant to hold down the head so it can be grasped. Always make traction with pains and never continuously unless the life of both are in jeopardy. It is better to be slow than sorry.

If the child's heart sounds grow constantly weaker and weaker to practical inaudibility and its movements cease in long labors or dangerous short ones, forceps must be used, however satisfactory the mother's condition, or many will be born dead. This condition may result from the use of petuitrin, prolapsed cord, twisting and tightening of the cord around the child's neck, placenta praevia, eclampsia, hour-glass contraction of the uterus by the failure of the longitudinal fibers of the womb to contract normally,

as well as, general exhaustion of the mother.

If the child is full term and the heart is strong at the beginning of labor, never admit that it is dead, however lifeless it appears at delivery. As soon as can be done clear mouth and nose, and suspend by the heels and slap smartly. If no response, press the bones of the head back to the natural position, then most of them will breathe immediately. If not use Sylvester's, or Schultze's method of resuscitation, preferably the latter for a few minutes. Follow this by suspending by the heels again and spank with the hand out of cold water. If necessary return to Schultze's method for ten minutes and change to the heels occasionally. Wrap the child in warm cloths and continue this for half an hour if needed and if in this time you hear the air enter the lungs as it is swung slowly and gently, there is no doubt it can be saved. As soon as feeble breathing begins, put it in warm water, mouth and nose excepted, and it is surprising how soon there is complete resuscitation. It is better for the heart action to keep it on the right side.

Very few physicians are natural-born obstetricians. The others appear content to jog along knowing, or doing, but little more than midwives untutored in anatomy or the mechanism of labor, and together with these, the hills and cemeteries are being dotted with little tombs because of their unpardonable ignorance or indifference. The dead of the past should appeal in thunder tones to them, to arouse them to the responsibility of expectant motherhood so they will study the physiology and pathology of labor till they know at every moment what is required right now and thousands of children will be given life to bless the home and the nation. They ought to realize that they stand on hallowed ground, the borderland between home and heaven, and on their efforts alone hang the dearest hopes of agonizing parents. If they do their full duty and save the little ones what on earth is more sublime.

Bowel Inertia.—It is the tendency of Prunoids—not only to produce one or more movements following each dose, but to promote physiologic regularity of the bowels—that makes this remedy so much superior to “salts,” or the laxative measures commonly employed. In simple words, the use of Prunoids means the rational treatment of bowel inertia—the activation of physiologic functions.

NEWER CONCEPTIONS OF TUBERCULOSIS.

By Herbert F. Gammons, M. D., Deerwood, Minn.

It is very unfortunate that the laity and the general physician that has been out of school for a number of years do not understand better the early manifestations of the body in the reaction of the tissues to the entrance of the tubercle bacillus. The prevailing idea seemingly is that almost instantaneously the tissues change from a condition of health to that of ulceration and that this is not a microscopic condition but a macroscopical one.

Many physicians look upon tuberculosis of the larynx and tuberculosis of the intestine as an ulcerative condition which is incurable and hopeless, which indeed it is at this stage, and they do not stop to consider the steps that take place in the reaction of the tissues to the entrance of the bacilli before the stage of ulceration has taken place.

The same idea has been prevalent regarding the lungs in the case of infection with the tubercle bacillus. Physicians have felt that in the absence of ulceration tuberculosis was not present. They have not stopped to think that the body passes through the different pathologic stages before the ulceration has taken place. They have not realized that the infection in some cases produces an area the size of a pinpoint and that this gradually increases to the size of a pea, etc., perhaps providing that the patient does not respond to treatment or that he does not take treatment.

Ulceration and tuberculosis seem to be synonymous in the minds of many and this condition of affairs has to be changed before the good can be got from any anti-tuberculosis movement. It is necessary for everyone to discard from the mind the old teachings of even the greatest scientists of years gone by and in the place of these ideas get the recent ideas that science has promulgated.

The infection atrium in tuberculosis is still a very much discussed question but however that may be we are very sure that the majority of the infections take place through the digestive or respiratory tracts. Many observers feel that the one is the most frequent route and many think the other.

It has been shown by Cohn that as a rule the infection in the young subject is primarily in the lymphatic glands and that the bacilli by lymphatic extension in-

vade the adjacent lung tissue. In case that the bacillie were ingested the glandular manifestations take place in the mesenteria glands.

The lungs are the eventual site of election for development of the bacilli and we recall the experiment with monkeys where the animals were injected with tubercle bacilli at the most distal points of the body and all eventually developed pulmonary tuberculosis. However, often the disease manifests itself in different parts of the body at the same time and often these infected areas clear up without attracting notice such as the laryngeal infections.

While formerly it was thought that tuberculosis was an inherited disease still now we know that there are only a few cases of inherited tuberculosis on record and these young babies all died in a few months after birth. It has been shown that from 30 to 90 per cent. of all cases of pulmonary tuberculosis have an intestinal infection and that about 20 per cent. have a laryngeal infection. These conditions are thought to be secondary as a rule to the pulmonary involvement.

Many of these conditions escape detection by the general physician and often the specialist fails to detect some of these very minute infections in the larynx on account of a general catarrhal inflammation surrounding them.

It is only natural for these infections to heal as a result of the mechanical resistance of the tubercle and the development of antibodies in the blood stream. It is however almost impossible to convince the ordinary general physician that tuberculosis of these organs ever existed because there was not any ulceration.

While we know that tuberculosis is primarily a disease of childhood still we must not feel that an adult cannot contract tuberculosis from another tuberculous person. This statement has been made by some specialists and must be refuted. Corper has recently shown that the tubercle bacillus thrown off from lungs of tuberculous people are very virulent and consequently the sputum, etc., of tuberculous people must be considered very dangerous.

One who has done much work among tuberculous patients is impressed with the fact that tuberculosis and things tuberculous are not absolute. Every case is a case unto itself. What will help one case will at times harma case which seems similar in all the subjective and objective manifestations. Then there is the difference in the size of the infected area

and also a difference in the virulence of the infecting agent.

It has been shown recently by Bartlett that fifty per cent. of the children at the age of six or seven years give a positive skin reaction to tuberculin, Armstrong and Bartlett have also shown that there are twenty cases of tuberculosis to every death and that nine of these cases are active and need sanatorium treatment.

The length of time of disease and the amount of healing are things that must be considered. We have been told that ninety per cent. of the people that die of any cause after the age of thirty-five years show tubercles in different stages and formations in their systems. In the case of some of these there is a probable active lesion and others may be healed.

Evidence points to the fact that tuberculosis is everywhere or at least the tubercle bacilli are everywhere. With this idea in mind we realize that we must prevent the predisposing causes of tuberculosis such as excesses of all kinds, etc., in order to make a systematic and generalized campaign against the disease.

There are many people who have an infection and not disease that is in the case of infection the bacilli have lodged in some tissues and have met such a resistance in the different ways that the further extension and activity is stopped whereas in the case of disease the further extension of the bacilli is not stopped.

Many cases of tuberculosis are discovered by casual examination as for life insurance or military service and often these are not active cases. In other instances many febrile cases are not discovered until ulceration has taken place. The inactive case is often sent to a sanatorium and the early case is sent back to work even though he has fever.

We must look upon all of our patients as being potentially tuberculous and decide which need sanatorium treatment and which need to live only a natural life as the Creator meant them to live. The idea of sending patients promiscuously to sanatoriums is a very bad one both from an economic and sociologic standpoint.

Observation of the general feeling, the temperature, pulse, weight, cough and expectoration will help us in deciding what is best for the patient and we should not try to rely too much on examination of the chest as it is impossible to say from a chest examination alone whether a case is active or not.

It will be impossible to treat all cases of tuberculosis. Most of the cases that are in sanatoriums today are open active

cases that have a bacteriologically positive sputum. These patients have unconsciously infected many of their friends and relatives. The results of the sanatorium treatment as far as a cure is concerned in these cases are very discouraging and the most that we can hope for where there is so much loss of the lung tissue is to get the lungs patched up so that the patient can be able to do a little work but always continue the treatment.

If we are to decrease the morbidity from tuberculosis we will of course need to isolate the carrier in every way possible. Unfortunately the carrier has already infected all those with whom he has come in contact before the disease has been discovered. We know that tuberculosis occurs primarily in childhood. It is a case of treating the tuberculous children and those active cases in the adult if we are to get results.

If a sufficient amount of rest, fresh air and good food will help in arresting a tuberculous process that is well established, the same processes will surely prevent the growth and extension of tubercle bacilli in cases where there is a slight infection. Therefore if we will prevent the predisposing cause of tuberculosis and consider that we are all potentially tuberculous we will go a long way toward solving the tuberculosis question.

In the past it has been a case of waiting until the disease was well developed before there was any treatment. In the future may we be able to teach all people to live according to the laws of nature and thereby prevent the further extension of the diseased areas which are in the bodies of the majority of the human race today. May we couple this campaign of preventing the predisposing causes with the observation and treatment of the cases which have been in contact with the open case and not spend so much time on the advanced case that is never cured. It is better to leave the advanced case at home and take the contacts to a sanatorium in cases where the contacts are infected. It is better for many reasons among which are the fact that the advanced case will go to a sanatorium and not get better and the relatives of this patient will feel that he would have gotten better if he had stayed at home thereby tending to influence others against taking sanatorium treatment, in fact those that could get well; and on the other hand we know that this person will never be well but the contacts of this case could get well if they

could take treatment when the disease is in the inflammatory stage and of more recent development.

Common sense must play a greater part in the anti-tuberculosis campaign. The doctor must assist nature in the beginning and not wait until the body is overburdened with toxins and the lungs are full of ulceration. Universal education is necessary to rid the minds of the people from the past ideas concerning tuberculosis. It must be shown that there is no one set of symptoms that we can go by to diagnose tuberculosis but that the tired feeling, pain in the chest, nervousness, indigestion, loss of appetite, weight and strength, spitting of blood and slight cough taken collectively or individually means tuberculosis as a rule. There can be no standard method of treatment for all cases as one case is altogether different from another, the one with the smallest amount of involvement often being the sickest and vice versa. What would be a sufficient amount of rest for one would not be sufficient for another and still too much for another.

As the resistance in tuberculosis is cellular it is necessary to have the rest of the body in good condition and therefore the nose, throat, teeth and in fact the entire body must be made fit to help the part affected with tuberculosis to make the fight.

The Treatment of Keloid by Injections of Creosoted Oil.—Lesieur (Jour. de Med. de Paris), employs injections of creosote in sterile olive oil, 10 c. c. of the former in 150 c. c. of the latter, in the treatment of keloid. The puncture is made in the sound skin close to the growth and the oil injected beneath, but not into the keloidal tissue. From 2 drops to 5 c. c. are injected at each treatment, care being taken not to overdistend the tissues; the injections are made every two days or even every day according to circumstances. There is at first a diminution, later complete disappearance of the rosy or violaceous tint of the keloid; itching and pain if present cease with the first injection; the skin becomes supple and the growth finally flattens out and disappears. These results are obtained from fifteen days to two months; in some instances, however, it may be necessary to continue the treatment for six months. The author has employed this method of treatment in 100 cases and regards it as very satisfactory.

UNUSUAL OBSTETRIC CASES.

By I. L. Van Zandt, M. D., Ft. Worth, Texas.

Case 1.—Mrs. —, 1875 or 6. I was called to assist a midwife. Just how long she had been with the patient I do not recollect. I found a living child born and the hand and arm of another protruding from the vulva. As I now recollect, without great difficulty, I introduced my hand, caught the feet, turned and delivered a dead child. If not already on her back she was turned to that position and I began a gentle manipulation of the womb. There was no hemorrhage of consequence. In a very short time, while apparently in perfect health, she began to gasp, and I think was dead inside of one minute.

Here evidently was an embolus. Was it of air or a blood clot? The introduction of the hand furnished a ready means of ingress for the air. Likewise the womb being in a semi-contracted condition for a considerable time, long enough for the clotting of the blood in the large uterine vessels, (?) might not the manipulation and the following moderate contraction have dislodged a clot to be carried to the heart or through it to obstruct the pulmonary arteries?

Case 2.—Mrs. C. G., whom first seen was having a flow as though an abortion was threatened. She was very much too large for the stage of pregnancy indicated by her "count," six months' enlargement with two or three months' count.

I was called in a few days and found her having pains and "something passing." Putting my hand under the cover, as was fashionable in those days, I found a wound of what felt like clotted blood, but no stain showed on my hand. Then I took some out and found it to be hydatids from degeneration of the chorion. The urine became scant, probably albuminous, and later she had fever, probably septic, and died.

This is the only case I ever attended in delivery. About 1902 I examined and diagnosed another case which I sent to another town to be with her mother and her family physician. My diagnosis was confirmed.

The symptoms given are the rapid growth and the tendency to hemorrhage. I would suggest also the rotundity of the tumor it being as round as a ball.

Case 3.—Mrs. S. K. G. In labor, both feet presenting. The os seemed quite rigid for a time. After the os began to dilate I noticed a sensation indicating a thinning of the wall on one side just out-

side the dilating os. Suddenly there was a rapid advance of both feet. I found on examination, that one came through the cervix and the other through a vent just outside of it. Not knowing in what direction the tear might extend, with scissors I cut through the band of cervical fibers, which was between the legs. The labor was rapidly finished.

Case 4.—Mrs. V. Z., a bipara, perineum, torn in first labor, immediately repaired.

The os dilated and a tough bag of water protruded. Thinking as a bag of water was good to dilate the os it ought to be good for a repaired perineum, I let it alone till the baby was born and lying in the bed. I then tore open the sack, the baby crying out as soon as the air struck it.

658 Henderson.

THE PREVENTION OF ARTERIO-SCLEROSIS BY DIET.

By Louis Faugeres Bishop, A. M., M. D., Clinical Professor of Heart and Circulatory Diseases Fordham University School of Medicine, New York City; Physician to the Lincoln Hospital.

Just as metabolism covers the whole of the chemical physiology of life, arteriosclerosis is a general name for degenerative disease that carries off most of those who do not die of acute disease or accidents, and diet is fundamental to existence.

Metabolism covers indeed all the chemical processes of the body. It includes two digestions, primarily the digestion of food by the alimentary tract, and secondarily, the digestion of food products by the individual cells of the body for the nourishment of these cells and the production of various types of energy in them. The primary digestion is so much a matter of consciousness and general information that the second or cellular digestion of the food products after they have been prepared for absorption is not sufficiently considered.

This is the portion of metabolism to which I refer in connection with arteriosclerosis.

Digestion has simply broken down the food into its constituent elements, and it has been passed into the blood stream in a fairly crude form. Many and elaborate processes are necessary before the copy of each tissue can be constructed so that it cannot be distinguished from the original in chemical or physical proportions, and before each cell can obtain fuel for

its activities. In these processes many enzymes take part as well as the secretions and activities of the ductless glands and the internal secretion of organs that have ducts. The specific effect of disorders of the ductless gland are too well known to need reiteration.

Metabolism in normal individuals has provided for the successful management of a great number of proteins. When protein metabolism fails, there are certain evidences that are more or less conspicuous, particularly those observed in nutrition or the presence of abnormal excretory products in the urine. Of these indican has attracted a good deal of attention of later years, while glucose has been observed by many generations of physicians.

Aside from the observable effects on nutrition and the excretion of abnormal products, the actual process of carrying on a faulty metabolism may injure the individual cells which take so active a part in this process. Each cell must obtain its nutrition for itself and convert it into its own particular form of protein. Ordinarily, the forms of protein which result from alimentary digestion can be dealt with by the cells without irritation. This is not true of proteins which are introduced directly into the tissues. When the purest possible proteins are thus introduced, there is a reaction which may be very violent. This is technically known as anaphylactic reaction.

Under certain circumstances of disordered metabolism the cells react in the same way to proteins that reach them through the alimentary canal and which were originally taken into the body as food.

The causes which lead up to such a disturbance of metabolism are ordinarily a severe infectious disease, some severe protein poisoning, prolonged nervous strain or great mental shock. When such a condition has been established and the flesh of the body is irritated, instead of being nourished by protein foods, there is gradually brought about a change in structure, which because it particularly involves the circulatory organs is known as arteriosclerosis. When individual organs are profoundly affected, it is known as nephritis, cardiosclerosis or hardening of the arteries. This is an incorrect conception because the disease always was a general disease.

If the interrelation of the intake of protein and a disturbed metabolism leads to arteriosclerosis, the logical conclusion is the importance of diet.

Chemistry has not advanced so far that by a study of the individual we can select his proper proteins. Hence, the combination of empiric observation of each individual directed by certain generalizations that have come from experience must be the guide.

The important lesson is that each protein is individual, no two being alike in their molecular construction—that the cells of the body act in a specific way to particular proteins, being helped by some and irritated by others.

The fewer the number of proteins we ask the cells to deal with, the less apt they are to find among them those that cause irritation, while if a person is irritated, it does always as much damage in small quantities as it does in large.

Diet in arteriosclerosis must exclude those which are under suspicion, and close observation to determine in the course of time what diet is best for the individual sufferer.

No diet is of much use that is not strict, because the relationship is qualitative and not quantitative.

109 East 61st Street.

Iritis and Cyclitis in Dysentery.—Maxwell and Kiep (British Jour. Ophthalmal), observed 6 cases all from the Mediterranean area, the subjects of infection with *Bacillus dysenteriae* (Shiga), who developed iritis or cyclitis. They conclude that patients suffering from an infection by this bacillus may occasionally develop anterior uveitis as a result of this infection, as pointed out by Morax. The ocular infection may or may not be accompanied by articular manifestations. These affections would appear to occur most frequently about a month after the first signs of involvement of the bowel, but may occur as early as the twelfth day. The articulo-ocular syndrome corresponds exactly to that occurring in another infection of a mucous tract, viz., gonorrhea, as pointed out by Garrod.

Chemical Food is a mixture of Phosphoric Acid and Phosphates, the value of which physicians seem to have lost sight of to some extent in the past few years. The Robinson-Pettet Co., incorporated, to whose advertisement (on page 14) we refer our readers, have placed upon the market a much improved form of this compound, "Robinson's Phosphoric Elixir." Its superiority consists in its uniform composition and high degree of palatability.

CONSTIPATION.

By E. P. Hershey, C. E., M. D., Denver,
Colorado.

If the members of the medical profession throughout the world were individually asked to make one single suggestion for the prevention and cure of constipation, we would have a line of advice so long that it would not come within the space of any one medical journal for publication.

From Hypocrites down to the very last graduate in medicine, suggestions have sure enough been plentiful; laxatives, cathartics and purgatives even up to the drastic ones, have been suggested and used, and we all have to acknowledge that the more called upon, the greater demand.

Anything, from fright to compound cathartic pills, will move the bowels, croton oil too, if you wish, but these make no suggestion, whatever, as to why the bowels do not, of their own accord, provide natural relief. Something wrong, what is it? Very sad to say, and yet, it is true, we have depended too much upon the early prejudice, i. e., "Keep the bowels moving daily and the patient will never be sick." How much better it would be to say if the bowels, of themselves, act regularly, and at the required time, the patient will never be sick. How to do this is the problem that suggests itself. Say what we please assimilation and elimination solve every problem the human economy may be put up to, without these something is sure to go wrong.

In the little brochure published by the New York Medical Journal on the Treatment of Constipation, by twelve physicians, we find that all of them agree upon, and mention one subject, i. e., regularity in going to stool. The neglect of this seems to predominate in their mind as the principal factor in the cause of constipation. This may or may not be the cause, the present writer thinks not.

When the sigmoid flexure is through with its functions of draining the last particle of nourishment, from the food which has centered there, it lets the residue down into the rectum, and nature demands that the useless product be gotten rid of immediately. Obey this call and physiological constipation will never exist, rarely too, in pathological complications.

When it is necessary to evacuate the contents of the rectum, nature will give the proper signal, whether it be in one day, two or three days, or a week. If

this call be not obeyed the fœces through reversed peristalsis will be returned to the sigmoid flexure, where through evaporation they will become hardened. When the accumulation becomes too great, it will again be emptied into the rectum, and if too large or dry to make its passage through the sphincter ani, the struggle again commences to return the mass to the sphigmoid flexure, its proper storehouse.

The writers' attention was called to the reversed peristaltic action of the rectum, through frequent vaginal examinations. This investigation may be readily carried out by any observer. Should an unobeyed call of nature be made immediately before such procedure, the fœces may be plainly felt. Upon subsequent examination, though evacuation has not taken place, the rectum will be found empty; the fœces having been returned to the sigmoid flexure.

The deep longitudinal muscular fibres of the rectum, though forming a thick uniform layer, have the same power of reversed peristaltic action, as do the longitudinal muscular fibres of any of the small or large intestines, that can produce stercoraceous vomiting when there is a pathological obstruction, as from ileoceusis, cancerous or other interference.

If one could voluntarily control any portion of the intestinal tract, so as to produce a stricture at any one locality, he could bring about reversed peristalsis and produce stercoraceous vomiting; as a matter of fact, we have but one control, and that at the outlet, through our volitional power over the sphincter ani. We have strong control only when the fœces are either solid or semi-solid. The longitudinal fibres cannot return liquid material, as is evidenced by the fact that it often will be to the discomfort and mortification of the individual, if he attempts, too long, to use this power of control.

There are but three species of living beings that are subject to constipation, human, canine and feline, and these only when domesticated. Each fails to promptly obey the calls of nature, the first through modesty or rush of business, the other two through fear of punishment.

The human being, in most civilized communities, trained to false modesty, is more prone to constipation than the less modest ones. Italy, for instance, where one can see little children squatting down and relieving themselves upon the thoroughfares of large cities, even more evident in small villages. Among savages

constipation is rarely met with, except when it is due to some pathological cause.

In animal life, the domesticated ones alone suffer from constipation, particularly when too confined within the home. Horses, cattle and wild animals do not have to await their turn, since, whether in the stable, out in the open fields, or upon the streets, when nature calls, they respond immediately.

With this in view the writer unconditionally asserts that constipation is an unnecessary evil, and too, were there no such things as laxatives and purgatives, human beings would be much better off.

Too much stress is laid upon the ill effects of constipation, which, if not due to pathological conditions, would soon avert themselves if uninterfered with. Administering laxatives and purgatives, so interrupt the natural course that the individual sooner or later becomes doomed to their constant use.

There is no greater absurdity than to advise a patient, to be sure to have a daily passage. A case of a young man comes to mind, who was a perfect physical specimen of robust youth, until his family physician persuaded him that he was in a serious condition, as he seldom had more than one passage from the bowels in a week's time. This condition had continued as long as he could remember, up to the time of the scare, having reached the age of twenty-two. He commenced the administering of every known laxative and purgative known to the pharmacopea. This young man wound up by becoming an habitual chewer of rhubarb root. A daily motion from the bowels was paramount to every thought he had, finally resulting in a decided condition of hypochondriasis. A perfect specimen of humanity turned into a depressed and dejected invalid. There is no question in the mind of any who knew him, that had he gone his own way, and obeyed the call of nature as it was intended for his particular case, he would still possess the health and vigor he was blessed with in his youth.

That constipation, per se, has but little or no influence upon the health of the individual can not be better illustrated, than a case that came under observation some ten years ago. A healthy young miner, about twenty-six years of age, good appetite, clear complexion, vigorous and efficient in the performance of his hard task to gain a livelihood, seldom, if ever, lost a day's work from illness. He jokingly remarked that "if his bowels moved more than four or five times a

year, he would consider that he had diarrhoea." The rectum and sigmoid flexure had become a human cesspool. His only trouble was that caused by the inconvenience of weight when the mass became too heavy. It was like having some weighty metal girdled about his loins, thus interfering somewhat with his work. When this occurred, as a matter of convenience, he would go under an anesthetic, and have the mass broken up and removed, only to return to his work relieved of an annoying burden.

There was no so called "autointoxication" in this case, as a matter of fact indicanuria does not exist in constipated individuals, since when it occurs it is found in cases where the feces are semiliquid or liquid, at which time absorption readily takes place.

It is not the purpose of this paper to advise against paying attention to constipation when it has become a permanent condition, on the contrary it is simply to decry the use of laxatives and purgatives, the use of which has become so prevalent.

Should there be a pathological cause for beginning accumulation of feces in the sigmoid, be it ever so slight, it should be removed. Heading the list of all etiological factors in a tight stricture and, an evil easily obviated by rapid and complete dilatation, not by graduated dilators, but under esmoform by an experienced operator who should rapidly dilate the sphincter, the best known instrument being the two thumbs, use just enough power to stretch the muscular fibres up to their breaking point, not beyond this, as too much will lead to future discomfort, and not enough will be of no avail.

Up to this time, in most cases, on account of too much demand upon the secretory power of the intestinal glands, their secretion has been much lessened. After this simple operation work diligently to prevent further hardening of the feces, do not use injections of large quantities of water, so often advised, but a small quantity, not to exceed a pint of Sennac tea containing a heaping tablespoonful of Epsom Salts, have the patient retain this as long as possible, so that the soluble power of the mixture will be effective in its purpose.

Finally advise the patient that if in the future he ever neglects to answer when nature calls, be it for the shortest time, the sins of omission will be upon his own head.

If the medical profession pays as much

attention to the outlet of the alimentary canal, as do dentists to its inlet, we may safely prophesy that the myriads of laxatives now on the market, would have little or no sale.

CERTAIN REACTIONS FOLLOWING THE INTRAVENOUS INJECTION OF SALVARSAN AND NEOSALVARSAN, THEIR SYMPTOMS AND TREATMENT.

By B. Barker Beeson, M. D., Assistant Professor of Dermatology and Syphilology, Chicago Policlinic; Instructor in Dermatology, College of Medicine, University of Illinois.

Although Ehrlich's arsenical products have been in vogue for several years, our knowledge of them is by no means complete. Occasionally their administration is followed by alarming and even dangerous symptoms. Since these reactions have received but scant attention in this country it shall be our endeavor to discuss their symptomatology and tell how they can be avoided in most instances.

Salvarsan seems to cause reactions more often than Neosalvarsan, which may be on account of its larger arsenic content, 31 per cent. as against 21 per cent. in the latter. An acid solution of 606 is especially liable to produce untoward results, while alkaline solutions are far less prone to do so. Neosalvarsan, which is neutral only rarely causes reactions.

Certain of the manifestations after an injection of either of the remedies mentioned seem to be due to a powerful vasodilator action of the arsenic with a consequent lowering of blood pressure. The most common of these is the so-called "nitroid crisis," a term created by Milian of Paris.

A "nitroid crisis" consists of marked flushing of the face, especially of the cheeks and ears. When severe it is accompanied by edema with swelling of the lips and tongue, and also by injection of the conjunctivae. Increased rapidity of the pulse, and marked dyspnoea is added to the picture. Severe pain in the chest may be present, especially over the precordium. Syncope ensues in extreme cases. As its name would suggest the "nitroid crisis" is very similar to what occurs when one inhales any nitrite. These crises usually occur during an injection, but sometimes do not appear until later, even on the second or third day,

when they are called secondary "nitroid crises!"

The onset of such an attack may be preceded by a peculiar premonitory aura. During the course of an injection the patient will suddenly remark that the medicine must be pretty strong since he can taste it. When asked to describe this he will usually say that it is salty or spicy. Such an aura is not always followed by a "nitroid crisis," but it is pretty good evidence that the dose will not be perfectly tolerated.

Other symptoms indicating intolerance to Salvarsan and Neosalvarsan are numerous. Among them increased secretion of the lachrymal and salivary glands has been observed. The serious diarrhea which sometimes follows these drugs may be due to a similar action on the glands of Lieberkuhn.

The fever noticed after 606 or 914 may be due to various causes. Organic and inorganic impurities in the distilled water employed, especially when it has not been freshly prepared, and contains bacterial proteids are of importance in the causation of fever. An impure sodium chloride used in making normal salt solution may also cause a febrile reaction. In those who are treated during the early stages of lues, especially when little or no previous treatment has been undergone, the fever may be due to the treponemacidal action of the arsenic. In such cases the rise is most marked after the first injection, diminishing after each subsequent one, so that by the third or fourth injection no fever is noted. We have in several such cases seen a rise after the first injection only. The degree of fever may vary in these cases from 100 to 104 degrees F.

Nausea and vomiting are also seen after the use of these drugs. They usually come on during the injection, but may be delayed for some hours. These symptoms often accompany the "nitroid crisis."

Marked fatigue may be present for a few days after the injection of Salvarsan or Neosalvarsan. Headache is also observed, most frequently after the initial treatment. It usually disappears within twenty-four hours. Among other subjective symptoms are transitory insomnia, tinnitus aurium, pruritus, pain about the articulations, and also along the vertebral columns. These are, however, of minor importance.

The cutaneous manifestations following an injection of either of these agents may be of several sorts. Urticaria, her-

petiform eruptions, scarlatinaform and morbilliform erythematata are perhaps most commonly seen. In our experience urticaria occurs most often.

The presence of chilliness, fever, nausea and vomiting lasting for a few hours after an injection of 606 or 914 should not be taken as evidence of intolerance to arsenic. Similar phenomena may be caused by the introduction of normal salt solution or collargol into the circulation. Intensity and prolongation of these symptoms especially fever and vomiting is evidence of arsenical intolerance, as is also the presence of a "nitroid crisis."

A rare condition called "serous apoplexy" has also been described by Milian. In this the brain is affected by a mechanism said to be similar to that causing the "nitroid crisis." No untoward symptoms occur for three or four days after the injection, then things suddenly change for the worse, and the patient shows signs of marked cerebral involvement. He becomes very agitated, epileptiform attacks, both tonic and clonic soon appear. They are shortly followed by coma. Death is usual within twenty-four to forty-eight hours after the onset. In autopsies on several such cases marked engorgement of the cerebrospinal canal and lateral ventricles was found. Fatal cases of "nitroid crisis" have shown an intense congestion of all the viscera.

The following suggestions are of value in helping to prevent untoward symptoms after an injection: (1) The use of plain, freshly distilled water as the vehicle. It should be prepared the same day it is to be used. (2) Employ a distillation apparatus which is entirely glass. (3) The solution of Salvarsan should be rendered alkaline and then a slight excess, one or two drops of 15 per cent. sodium hydroxide is added. (4) The initial dose of Salvarsan should not exceed 0.20 grams, of Neosalvarsan 0.35 grams. As a rule one should not exceed 0.6 grams of 606, or 0.9 when giving Neosalvarsan. (5) Seven to ten days should constitute the usual interval between doses. In exceptional cases they can be given four to five days apart. (6) The urine should be examined in all cases previous to the injection. (7) Be cautious in giving these drugs to alcoholics and nephritics, also to those who have cardiac lesions, or acute inflammation of the upper air passages. (8) Always give the injection on an empty stomach. Don't allow any solid food until the next day. (9) Have your patient go home at once

after the injection and remain quiet for the rest of the day.

Treatment.

Since the most important symptoms of intolerance the "nitroid crisis," headache, and diarrhea in certain cases as well as "serous apoplexy" seem due to a marked vascular dilatation we should think of a vaso-constrictor in the treatment of such cases. The best one for this purpose is adrenalin chloride in 1-1000 solution. Its effect is very satisfactory, at times even brilliant. A fair dose would be 1 cubic centimeter, equal to one milligram of a 1-1000 solution. As much as four milligrams has been given in divided doses. We believe that one-half or even one-fourth of this amount will suffice in most instances. In cases of coma give two to four milligrams within one to two hours.

Adrenalin is best injected deeply into the muscles of the gluteal region. When given subcutaneously its effect is more transitory. The intravenous route should be reserved for urgent cases as in "serous apoplexy." We have found adrenalin especially efficacious against the "nitroid crisis," and also serous diarrhea. No opportunity has been afforded us to personally test its action in "serous apoplexy," but such cases are said to have been cured by it.

Adrenalin should be given ten minutes previous to the intravenous injection. Very soon the patient will become quite pale if the drug is exerting its effect. The "leuco-reaction" as it has been termed should always be looked for as an index to the efficiency of adrenalin in the case under treatment. Other vaso-constrictors such as ergotin have been used in a similar way, but they have not given equally good results. Hence it is evident that a purely constrictive action is not all that is required. Perhaps as some have suggested a cardio-tonic action comes into play.

The pallor following adrenalin having been mentioned, we shall call attention to other symptoms which may follow its injection. Acceleration of the pulse rate even up to 100-200 beats per minute, a more or less generalized trembling and marked pain at the site of injection are most common. These after effects are of brief duration save the localized pain which may remain for two or three days.

Flushing of the face during an injection of Salvarsan or Neosalvarsan should be an indication for stopping the procedure at once, and giving one milligram of adrenalin. A "nitroid crisis" would be

treated in the same manner. If no improvement is seen within an hour, repeat the dose. When next your "nitroid" patient comes for an injection, give him one or two milligrams beforehand and in the majority of cases he will have no reaction or a very mild one. This may be evidenced by a slight flushing of the face, which is really an aborted "nitroid crisis."

In conclusion we should heartily recommend adrenalin in all these cases. In our experience it has been of real value. The untoward effects following its use are almost nil, and the benefits derived are often great.

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Close versus Distant Illumination for Operations.—Maddox (British Journal Ophthal) has attached to conjunctival forceps for operations on after-cataract as well as for emergency night operations a tiny screened electric lamp to one limb of the forceps half an inch from the gripping end. This attachment can be made with adhesive strapping or, better still, by a very light metal clip or steel wire, into the curl of which an ordinary bulb from a child's flash lamp is so screwed as to illuminate the iris brilliantly, when the forceps are gripping the limbal conjunctiva. The connecting cord must be of a feather-weight character. The grip of the forceps ensures a perfectly steady light and maintains its distance from the cornea constant. It is for needling operations that the method is ideal, and it also greatly facilitates the removal of foreign bodies from the cornea. While distant lights form of close illumination has certain advantages; these are greater economy, greater portability and greater kindliness to the patient's eye. A close light is diffused widely over his retina, with no possibility of the image of the filament being thrown thereon. It also increases the surgeon's visual acuity. The smallness of the patch of light on the patient's eye is less disturbing than a widespread reflection from the whole face and pillow.

REPORT ON MEDICAL STUDENTS' WORK IN COMBATING INFLUENZA EPIDEMIC.

By George E. Nitzsche.

Now that the influenza epidemic is well under control in Philadelphia and immediate vicinity, the writer has been asked to make a report on the work accomplished by the medical students of the University of Pennsylvania in combating the influenza epidemic, with the hope that such a statement might be of service in organizing a similar movement in other communities for stamping out the epidemic; indeed preliminary reports on this subject have already been used to advantage by various health authorities throughout the country.

The splendid and effective results were largely due to Dr. H. C. Wood, Jr., Professor of Pharmacology and Therapeutics at the University, who on October 2nd was requested by Major Griffith, the Military Commandant at the University of Pennsylvania, to organize an Influenza Emergency Hospital, to take care of students who could not be admitted elsewhere because of the overcrowded condition of all hospitals. This was done on the same day, the Delta Psi Fraternity House utilized for that purpose, it being at that time entirely empty, awaiting its use as barracks for the Student Army Training Corps. The necessary beds, bedding, dishes, cooking utensils, hospital equipment, doctors, nurses, food and a caterer for the patients were all secured that first day; and on the following day, October 3rd, was made to the fourth year medical class for volunteers to serve as nurses in this hospital. This appeal was responded to by sufficient men to carry out the work and care for the number of patients at that time in the hospital. On October 3rd the assistance of Dr. John W. Hunter was obtained and he has since been acting as chief physician for the hospital. On the day after Major Griffith's first suggestion there was a running hospital of 13 beds and such equipment as was immediately necessary with enough nurses to carry on the work. The patients were applying for admission so rapidly, however, that it became evident that more comprehensive plans for employing the students' help must be formulated. On Sunday, October 6th, a call was issued for all the third and fourth year medical students to report to the hospital and the following day a joint meeting of these two classes was held at which meeting practically every man in

the two classes was assigned to some duty in connection with the epidemic.

On the 4th of the month Dr. Frank B. Hancock was put in charge of the Sanitation work in an effort to stamp out the epidemic in the University. To his department were eventually assigned a considerable number of the student volunteers; more specific reference will be made to the work of this department later.

On the 6th it was announced that there would be opened a City Emergency Hospital by the Red Cross in the maternity buildings of the old Medico-Chirurgical Hospital at 18th and Cherry streets and Dr. George H. Meeker who was in charge of this hospital appealed to the Unit Surgeon for medical students to act as nurses. At the mass meeting of the third and fourth year medical classes (mentioned above), which was held on the 7th, all those members of the two classes who could be reached and who were not already engaged in hospital work were assigned to duty either at the University Emergency Hospital, or at the Red Cross Hospital or in the Sanitation Squad. To give some idea of the extent to which Philadelphia Hospitals have relied upon the University of Pennsylvania medical students for help, it may be mentioned that 72 men have been working at the Red Cross Hospital, 38 at the various other city hospitals that have been doing emergency work and 9 in various hospitals in the immediate vicinity, as well as those actively employed in fighting the pest on the campus itself. In all, at least nineteen hospitals have been supplied either in whole or in part with residents and internes from among the members of these two classes. In addition to these there were a number of students out visiting private patients, gratis, under the auspices of the City Board of Health, the University Settlement or similar organizations.

The work done by these various groups of men was often of the most unpleasant character. In the Red Cross Hospital and the Students' Emergency Influenza Hospital they acted not only as Internes but also as nurses, orderlies and "scrub-women;" literally there was no one to sweep or scrub the floors in the Emergency Hospital at the University of Pennsylvania Hospital, except the students and it was done uncomplainingly and gladly by all men assigned to work there.

The Sanitation Squad not only inspected the rooms in the dormitories but in-

vestigated the condition of the plumbing, cleaned out the toilets, fumigated such rooms as required it, visited the various assembling places of the students around the University and saw that these places were kept in as healthy a condition as was possible under the very trying circumstances that prevailed. They sent all sick cases that came under their notice to the hospital, fumigating the rooms from which the cases came. Their work was perhaps of all the groups the least interesting and most exacting, but from the standpoint of general health and hygiene it was one of the most important. It very promptly showed results and within three days after the beginning of the work of the Sanitation Squad there was an evident diminution in the number of cases from among the student body.

The spirit of the students in this crisis can be illustrated by the following incidents. In a number of instances men who contracted the disease themselves while working in various hospitals would come back into the office as soon as they were out of bed in a condition still so weak as to be totally unsuited for work and beg to be reassigned to active duty. Men who were just out of bed when they were told that it was dangerous to expose themselves to the infection in the hospitals and were forbidden to do so, asked to be assigned to some duty where they could do their share without re-exposing themselves to the infection so that they could relieve men more healthy than themselves for actual hospital work. Many of the students who were working in the Sanitation Squad or at very necessary office work connected with the administration and organization of all these departments would spend the night at the Red Cross Hospital. When it is remembered that these men were already working hard from ten to fourteen hours a day at their regularly assigned work the sacrifice involved in spending an additional six or eight hours at the most arduous hospital work becomes manifest. One of the women students continued on duty at the Red Cross Hospital until she fell in a state of collapse from exhaustion working for 48 hours at a stretch without sleep or rest. One fourth year student whose work was house to house visiting under the direction of Dr. Krusen came into the executive office at midnight having been on duty since 8 a. m. and was so wrought up by the experiences that he had been through that he refused to obey the order to go to bed, but insisted on

telling what he had seen and asking for advice on the detailed treatment of certain cases he had encountered that he feared were beyond the scope of his medical learning. After a few hours rest he was back on duty, applying the information given him. After three days of this labor he himself was stricken with the disease. It is interesting to note that 25 juniors and 35 seniors themselves acquired the disease. This rate of sickness (1 in 3), is far in excess of the proportion of cases in other departments of the University of the city at large. This is due to the fact that these men caught the infection in the line of their duty. In several instances students gave up lucrative private work that they might assist in the public fight against the plague, working gladly for no reward save the consciousness of having done their duty as members of the medical fraternity. In some cases where men were assigned to positions of especial trust where their absence from duty for even a single day would have meant the disruption of the organization or the lapse of efficiency on the part of men assigned to duty under them they reported for duty and refused to remain away even when actively suffering from the disease itself, taking the utmost precautions while fulfilling their own positions not to jeopardize others who might have become infected by association with them. In one case in particular, though warned of the extreme gravity of the danger to himself if he did not rest in bed one of the junior class continued his work without relief for several days—fortunately without serious results to himself. One of the seniors in outside visiting practice reported that he was daily visiting 176 patients.

Results of Surgical Treatment During the Last Aisne Offensive.—Tuffier (Bulletin de l'Académie de Médecine) reports on a large number of wounded treated during two weeks of artillery preparation and offensive fighting. Shell wounds constituted seventy-two per cent. and bullets seventeen per cent. of the whole number. Twenty per cent. of the cases could not be transported to hospitals. The head was the part injured in sixteen per cent.; the lower extremity, in thirty-four per cent.; the upper extremity, in thirty-four per cent.; the thorax, in ten per cent.; the abdomen, in four per cent., and the spinal column, in 2.6 per cent. Twenty per cent. of the cases had more than one wound. The mortality among all those treated was 5.18 per cent.; among

the untransportable cases, 17.7 per cent. Gas gangrene set in in only 0.3 per cent. of the cases, and tetanus in 0.05 per cent. Among the cases wounded in the abdomen, eighty-six, or eighteen per cent., were subjected to laparotomy, but the mortality remained high—sixty-one per cent. Among those wounded in the chest, 106 were subjected to thoractomy, with a twenty per cent. mortality. Of 1,736 cases of craniocerebral injury, 9.67 per cent. were decompressed. The mortality among such cases was 13.33 per cent. The treatment of fractures yielded excellent results. Of 231 grave fracture cases, twenty-six were moribund when received; in 115 cases the fractures were closed primarily or secondarily, while in eighty-seven primary suture was resorted to, with success in 73.4 per cent. of the cases. Wounds of the soft parts showed the best results of all, and were operated in, on an average, fifteen hours after the injury. Mechanical disinfection by excision, with prompt suture of the wound, was carried out in about eighty-five per cent. of all these cases; with delayed suture, i. e., in one to four days, in 14.5 per cent. of cases. Promptly sutured—with forty-eight hours—was successful in eighty per cent. of these cases; delayed suture, after transportation of selected wounded cases to hospitals at the rear, in ninety-three per cent. Suture after forty-eight hours was successful in 64.5 per cent. Secondary suture, after Carrel disinfection, was successful in ninety per cent. These excellent results are ascribed not only to the improved methods of treatment, but also to perfect co-operation of the various units and hospitals and to careful selection and rapid transportation of the wounded.

Significance of Cardiac Murmurs.—Wilson (British Medical Journal) says that not very long ago practically all cardiac murmurs were regarded as evidences of serious trouble, but that, especially since the beginning of the war, murmurs have become rather generally suspected as to their significance. He discusses various physiological or functional murmurs, citing illustrative cases to show their want of serious significance. Even systolic murmurs of endocarditic origin may be of relatively slight significance when there has been little or no associated damage to the myocardium, but the determination of the true importance of such murmurs early in their development is not easy and prognosis must therefore be regarded at first. Their

association with other murmurs, with pericarditis, myocarditis, and with vegetations naturally imparts a serious import to their discovery. The occurrence of auricular fibrillation along with such murmurs adds gravity to their significance. In all cases in which systolic murmurs are found a careful general survey must be made and no heart is to be condemned upon a solitary sign. The point is emphasized that murmurs which occur during the period of ventricular diastole, all being indicative of serious disease. Thus it may be stated as a generalization that systolic murmurs are often negligible while diastolic ones are seldom so, if ever. Mitral and tricuspid systolic murmurs are often physiological though due to an actual regurgitation of blood. The reason for their being of relatively little import, even when the regurgitation is considerable, lies in the immediate filling of the auricles from the overdistended veins through relaxation and dilatation, forward pressure in the veins, and aspiration by virtue of reduction in the intrathoracic pressure. A further reason when the murmur is mitral, lies in the fact that the nutrition of the heart is unimpaired. Aortic systolic murmurs alone are of relatively slight importance because the slight narrowing of the orifice can be readily compensated by slight hypertrophy and because the stenosis does not interfere with cardiac nutrition. When the stenosis is more than slight the adhesion and thickening of the cusps leads to regurgitation. The grave import of diastolic murmurs such as those of mitral stenosis and aortic insufficiency is because of the fact that they are due to conditions which materially hamper the mechanical action of the heart and because they impair the circulation through the coronaries and hence interfere with the nutrition of the myocardium.

Treatment of Gunshot Wounds of the Knee-joint.—Page (British Med. Jour.), has seen 70 cases submitted to operation. Thus all cases with clean perforating wounds remaining clean coming under observation in the same period are omitted. There was articular bone injury in 59, the missile lodged in 51, recovery occurred without obvious infection of the joint in 45, amputations were done in 10, the deaths occurring after amputation were 4, and the total deaths 5. In dealing with wounds of the knee-joint the natural defensive powers of the part against infection should be borne in mind.

To obtain fair play for the defense should be the aim of the surgical procedures adopted. Primary prophylactic (that is within twenty-four hours of injury) operations should be radical, and secondary operations undertaken on account of progressing infection, should, short of amputation, be planned on conservative lines. The expectant treatment of wounds of the knee-joint is only justifiable in the case of typical perforating injuries due to a rifle bullet. All wounds of the joint caused by shell fragments or distorted bullets should be considered as primarily infected. The primary prophylactic treatment should consist in the removal of any foreign bodies present and in the excision of the whole wound tract at the earliest possible time after injury. Any delay beyond twenty-four hours will entail failure in a certain proportion of cases. The results at present are particularly bad in cases in which gross comminution of the diaphysis is present. A primary excision or erosion of the joint (within twenty-four hours) would probably improve the results in such instances by preventing the development of entomyelitis. Repeated aspiration of the joint and the intra-articular injection of any of the antiseptics in use are calculated to prejudice the natural defense. It is safest to leave some drainage along the wound tract after operation for a few days, certainly when bone injury is present. Any infection then left may become localized in the same way as occurs in the case of the peritoneum. A gauze wick makes a satisfactory form of drain. Immobilization of the joint during all critical periods is essential. An interrupted plaster-of-Paris splint affords the best means of effecting this. When general infection of the joint has taken place, treatment by fixation, lateral arthrotomy, and immunization gives the best chance of saving the limb, secondary abscesses are to be expected and should be evacuated after their complete development. Neither cross-section and flexion of the joint nor secondary excision of the knee are sound procedures.

Gall-Stones.—While it is generally conceded that there is no medical treatment for cholelithiasis, it is a fact that a teaspoonful of Chionia three times a day, through its cholagogue effect and decongestive action on the biliary passages, will go far to prevent the conditions which are so largely responsible for attacks of gall-stone colic.

Charlotte Medical Journal

Published Monthly.

EDWARD C. REGISTER, M. D., EDITOR
CHARLOTTE, N. C.

THE CANCER PROBLEM.

There are many problems in medicine on which much intelligent and faithful labor has been expended, but none, perhaps of greater interest and importance than that of cancer—and yet it is far from being solved.

In older times, the disease, with many others, was looked upon as a constitutional malady, and surgery was considered only a temporary measure to remove offending tissues, and not as a cure of the disease. With the advance of modern surgery, however, this latter has taken a broader stand, until of late years the profession and the laity have regarded it as the only hope of reaching the trouble.

But Dr. Bulkley, in his books and writings, during the last few years, has called our serious attention to the constitutional relations of the disease, and from the yearly volume of the United States Mortality Tables and other sources has given statistics which should command attention. He very forcibly compares the great and steady decline in the death rate from tuberculosis, under careful medical guidance (almost 30 per cent. since 1910), with the steady increase in the mortality from cancer, under surgical care and treatment (also almost 30 per cent.) during the same period. This is an approach in the mortality of the two of nearly 60 per cent. in the 16 years; so, if both diseases pursue the same courses there will be more deaths from cancer than from tuberculosis in 16 years more. This is a serious matter to contemplate.

The question very naturally arises if there is no way of checking the alarming increase in the yearly deaths from cancer. For many years the laboratories, at great expense, have worked hard to solve the cancer problem and the surgeons have done their best, and have even made a wide propaganda in regard to the necessity of early and complete excision; and yet the death rate still rises, even more than before.

Relatively little attention has been paid to the medical aspects of cancer and its intelligent management by proper dietary and remedial measures, as in the case of tuberculosis, which Dr. Bulkley thinks is

a great mistake. It is impossible in a brief editorial to give any good idea of the subject as developed by Dr. Bulkley, and it will not be attempted. By very careful and repeated study of the clinical and systemic conditions in cancer patients and the application of a sound dietary and medicinal treatment, he claims that very much better results can be obtained than by surgical methods; especially if the case is taken earnestly in hand early, and the treatment intelligently and diligently carried out, for a long time; and the cases he reports seem to verify this.

The cancer problem is indeed a great one, and the many Will-o-the Wisp and disappointing "cancer cures" which have been brought forward by good medical men and quacks in past years make one cautious in accepting too hastily any new measure. But the fact remains that the death rate from cancer is rising steadily and alarmingly under the views and treatment prevailing these latter years, and it would seem wise to give serious attention to these new facts and views which have been so clearly and pungently presented to the profession, now for some time. Careful study of literature shows that some of the strongest surgeons during the last hundred years, and even up to the present time, have expressed their doubts as to the real value of surgery in cancer, and their suspicions that there must be some constitutional cause for its occurrence and recurrence.

DANGER SIGNALS IN OBSTETRICS WITH THE GENERAL PRACTITIONER.

With all of the practice that the general man has, the most fascinating to me is the work of obstetrics, and to my mind the one branch of medical science that requires special study and preparation. True any one with a very limited knowledge can take care of a perfectly normal case, but when the abnormal cases come, it is then that the ingenuity, foresight, judgment, commonsense and skill is required of the best trained specialist.

Being a general practitioner, I feel like I have a perfect right to say what should be demanded of every practitioner for this important work. It is not enough that he know how to conduct a normal case of labor to a safe termination but that he should be able to recognize the many dangerous and abnormal conditions that will arise and conduct them to a safe conclusion.

When labor has begun and the physician is called how important it is for him to determine the presentation of the child. How useless it is for a woman to exhaust herself if there is L. O. P. or R. O. P. Then if the child is normal or above normal and the pelvis is abnormally small how much valuable time and strength is wasted to allow a woman to do the impossible. Then, again if the presentation is breech, how important it is for the attendant to realize that after the buttocks have come through, that he is to waste no time in getting the arms down and the head out to save the child. And if there is a hemorrhage appears with or without pain and there is a placenta previa or some other cause for the flow, the attendant should realize that there is no time to let nature take its course, but time for him to do something. And if you are called and the patient is in convulsions or about to go into convulsions, whether it is time for labor to begin or not, it is time to act. And lastly if your patient has been in labor for hours and hours and is dilated and still the child does not come, begin to realize before this stage is reached, that you do not have the normal position, that you have a large child, too large for the outlet, or that you have an abnormal outlet.

Unfortunately many practitioners, old as well as young, do not recognize these danger signals and if they do, do not have the ability, foresight, judgment and skill to act and save life: consequently many lives are sacrificed needlessly.

What should be done? The profession as a whole should be brought to a greater perfection in obstetrical work, or when a difficulty arises before temporising and making a bad condition worse, call in some recognized man of ability along this special line.

L. A. B.

FIVE MILLION ARMY MEANS FIFTY THOUSAND MEDICAL OFFICERS.

With an army of three million men in the field or in training and as contemplated, an expansion of this force to five million men, the Surgeon General must have in the Medical Reserve Corps at least fifty thousand doctors.

The Medical Corps must keep a pace in growth with the army expansion and it behooves every doctor in the United States between the age of 21 and 55, who is physically, morally and professionally fitted, to arrange at the earliest possible moment, his personal affairs so as to of-

fer his services to his country in the capacity of a medical officer.

The United States is in the war to do her part in winning the struggle and this can only be accomplished by a large and well trained body of troops adequately cared for by sufficient number of medical officers. The importance of the doctor's service and its relation to the successful outcome of the war cannot be underestimated.

As the mobile forces increase in size, so is there an expansion of Base Hospitals and other institutions for the care of the sick and wounded and there should be no lack of officers when required to give to our patriotic boys, that professional attention which is so essential.

It is well for the medical profession of the United States to realize at once that a Medical Reserve Corps of at least 50,000 doctors will be required to meet the demands of the Surgeon General and upon which Corps he can draw for his medical officers.

We believe by this time that the profession of this country must be fully alive to the needs of the service, so let every doctor who is qualified, feel that he is doing not only his patriotic duty in offering his services as a medical officer, but is relieving the tension of the Surgeon General's Office by placing at the command of the Chief Officer of the Medical Department an adequate force without the frequent beating of drums to supply the necessary number with each increase of the mobile forces.

If you have not already received an application blank for commission in the Medical Reserve Corps, your nearest Examining Board or the editor of this journal will be glad to supply you.

In this connection we desire to say that in taking the required number who are below 55 years of age for our 5,000,000 soldiers, we must not lose sight of the fact that the 95,000,000 men, women and children who will not be in the army will need medical attention. The age limit for our army medical service cannot be lowered; however, it can be raised. There are a number of physicians over 55, 65, 75 or even more years, who are as capable and competent, physically, mentally and morally as many of them under 55, especially in base hospital, on post duty or in office work. They can be of more service along those lines than in general practice. The Council of Medical Defense and those at the head of the Medical Department of our army should carefully consider this matter.

COUNCIL OF NATIONAL DEFENSE

The Council of National Defense authorizes the following:

Interest among the members of the medical profession as to how their services are to be used in the Volunteer Medical Service Corps, once they have been enrolled and have put on the badge which indicates their willingness to serve and readiness to respond to a request from the Surgeons General of the Army, Navy or Public Health Service, or from the Provost Marshal General or from the General Medical Board of the Council of National Defense, has led to the announcement by the Central Governing Board of the basic system of classification for the organization. The lines on which the classification is made were determined by the Committee on Classification of the Central Governing Board, and whose report was adopted. This Classification Committee has on it representatives of the Army, Navy, Public Health Service, Council of National Defense, American Red Cross, Hospitals, Colleges, Civilian Doctors, War Industries.

A summary of these classes follows:

Class I—These will be the physicians first recommended by the Central Governing Board to apply for commissions in the Medical Reserve Corps of the Army, Reserve Force of the Navy, or for appointment in the Public Health Service. They include physicians under 55 years of age, who are without an obvious physical disability which is disqualifying, and who have not more than one dependent in addition to self; or who have an income or whose dependents have an income sufficient for the support of dependents other than that derived from the practice of their profession.

There are several exceptions provided for because of evident essential needs. Whether a physician's services are essential to his community will be established by the Central Governing Board on recommendation of representatives of the Board appointed by it to make a survey of local conditions. Whether a physician is essential to an institution with which he may be connected will be established after conference between representatives of the Central Governing Board and representatives appointed by governing bodies of the institutions concerned. Similarly, the question of whether a doctor is essential to a health department will be established by conference between the Central Governing Board and the head of that health department,

The question whether a teacher in a medical school is essential to that position will be established by the Central Governing Board and representatives of the institution. Conference between the Board and accredited representatives of industries concerned will determine whether doctors employed as industrial physicians are essential in those positions. A physician essential on his local or medical advisory board will not be disturbed.

Class II—In Class II are physicians under 55 years of age who are without an obvious physical disability which is disqualifying, and who have not more than three dependents in addition to self. These will be recommended by the Central Governing Board, when the need exists, to apply for commissions.

Exceptions in Class II are the same as in Class I.

Class III—These are physicians under 55 years of age who are without an obvious physical disability which is disqualifying, but who have more than three dependents in addition to self; and they are the physicians included among the exceptions from Classes I and II, namely those essential to communities, institutions, health departments, medical schools or industries. They will be recommended by the Central Governing Board to apply for commissions when the emergency is so great as to demand their services.

Class IV—In Class IV are the physicians who are ineligible for commissions in the Medical Reserve Corps of the Army, or Reserve Force of the Navy, but who are available for all other services. The physicians in this class include those over 55, those having an obvious physical disability which is disqualifying, and those rejected for all government services because of physical disability.

Physicians not professionally eligible for the Medical Reserve Corps of the Army or for the Reserve Force of the Navy, or for appointment in the Public Health Service, will be recorded but not admitted to the Volunteer Medical Service Corps.

Applications for enrollment in the Volunteer Medical Service Corps continue to come in from physicians from all over the country and by every mail to the headquarters at the Council of National Defense Building. These are being classified as rapidly as possible. Representative physicians from various parts of the country are assisting in the work incident to the classification.

State Executive Committees, enlarged to handle the work of the Volunteer Medical Service Corps, are perfecting the organizations in their states, and county representatives have been appointed in practically every county in the country. Group meetings are being held in many of the states, at which the State Executive Committees and county representatives are being addressed by members of the Central Governing Board of the Volunteer Medical Service Corps.

Physiological Stimulation of the Choroid Plexus and Experimental Poliomyelitis.—Flexner, Amoss and Ebersson (Jour. Exp. Med.), record experiments which serve, in the first place, to confirm those of Dixon and Halliburton on the stimulating effect of intravenous injections of extracts of choroid plexus in the secretion of cerebrospinal fluid and extend their observations to monkeys. They bring out also the variable effects of the virus of poliomyelitis, variations affected by the quality of the virus and also by the individual powers of resistance to infection possessed by individual monkeys. These factors of variation must be taken into account in performing and interpreting experiments on infection and particularly those on immunity and specific therapy in relation to poliomyelitis. In general it may be said that experimental infection by way of the blood is not easy to produce in monkeys unless some contributing factor, such as the existence of a coincident aseptic meningitis, operates at the same time. And yet two of their experiments show that when the strength of the virus is great the injection of relatively considerable quantities suffices to induce infection and paralysis, but not in all instances. The chief outcome of the experiments has been to determine the fact that when the intravenous inoculation of the virus does not in itself suffice to induce infection and paralysis the intravenous injection of extracts of the choroid plexus, which in themselves excite the secretory functions which preside over the formation of the cerebrospinal fluid, is powerless to modify this result. This fact would seem to be of interest and importance, since it has already been shown that very slight structural changes in the meningeal-choroidal complex suffice to make possible or certain infection under these circumstances. Apparently mere augmentation, from time to time, of the secretory functions of the choroid plexus, through intravenous injection of an extract of the

choroid plexus and while the virus is still circulating, is insufficient to ensure passage of the virus from the blood into the nervous tissues, upon which infection depends. Neither does the augmentation exercise a restraining influence on the development of infection otherwise capable of taking place.

A Common Origin for Shingles and Chicken-pox.—Le Feuvre (British Jour. Dermatol), believes there is a close etiological relationship between herpes zoster and chicken-pox. He has collected about 50 cases, 7 of which were under his own observation, in which these diseases occurred so closely associated as to suggest the probability that they had a common origin. In the author's 7 cases an attack of zoster was followed in from twelve to twenty days by chicken-pox in some other member of the family, in all cases a child. Of the whole number of cases collected 41 showed this sequence, while in a much smaller number (5 cases) zoster followed the chicken-pox; in 4 cases the two diseases were concurrent. The author believes shingles to be an infectious disease, which, under certain unknown conditions, may serve as the starting-point for an epidemic of chicken-pox, and should therefore be placed in the list of notifiable diseases.

Panopepton in Grip and Pneumonia.

Is a food of peculiar, desirable properties and special service. It evokes instant response because it is instantly assimilable; is restorative, fortifying, stimulant; conserves "energy"; avoids waste fermentative material; enables convenient frequent feeding.

All the complex proteins of beef and of the entire wheat grain, the carbohydrates, indispensable associated complex organic and inorganic extractives, the peculiar activating principles, co-ferments, vitamins, etc., are contained in Panopepton, are all physiologically set free for the nutrition of the sick.

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Panopepton is ready to use; requires no preparation; is best liked cold without dilution or placed simply for an instant on cracked ice.

Fairchild Bros. & Foster, New York.

EDITORIAL NEWS ITEMS

Dr. D. A. Stanton, of High Point, is now mayor of that city. He has since May, 1917, been serving as a member of the city council from the fourth ward and as mayor pro tem. Dr. Stanton is one of the most prominent physicians of North Carolina and is also a fine business man. The people of High Point are to be congratulated on their selection of a mayor. He will serve his people intelligently and wisely.

Dr. R. R. Hunter, formerly of Charlotte, N. C., has recently been promoted to Lieutenant Colonel. He has for some time been Camp Surgeon at Camp Sevier. Colonel Hunter was formerly an officer in the North Carolina National Guard. He went to Camp Sevier possibly over a year ago as a Captain, subsequently he was promoted to the rank of Major and now he is a Lieutenant Colonel.

Dr. L. L. Campbell of York, S. C., died October 3rd. He was a prominent and prosperous physician of that section of South Carolina. He graduated at Hospital College of Medicine, Louisville, Ky., 1902.

Dr. Willis Alston, of Littleton, N. C., one of the most prominent physicians of North Carolina, died October 7th. He died of pneumonia, a complication of influenza. His father, Dr. Willis Alston, was a very prominent man in the State Medical Association. The older members of this organization remember him pleasantly.

Resolutions.—At a special meeting of the Mecklenburg County Medical Society, the following resolutions were adopted:

It is with sadness and regret that we have learned of the death of Dr. Marcus C. Houser, our brother and fellow member.

Dr. Houser was 31 years of age. He was a graduate of the North Carolina Medical College, and located in Charlotte in 1913, moving here from Advent, N. C.

When the call for physicians came in 1917, with a patriotism characteristic of his profession, he volunteered for army service and after spending three months at Oglethorpe, was commissioned first lieutenant in the M. R. C. He was stationed at Camp Jackson, Columbia, S. C.,

and there contracted influenza and pneumonia, which proved fatal, his death occurring October 7, 1918, after a week's illness. Lieutenant Houser was the first physician from Charlotte to sacrifice his life in the service of his country.

Faithful in all things, he answered the final call, leaving a void in the home circle, in the profession and in this society.

Be it therefore resolved that we extend to his family our deepest sympathies.

That a page of our minute book be dedicated to his memory.

That a copy of these resolutions be sent his family and the Charlotte papers.

JOHN R. IRWIN,

E. C. REGISTER,

REID PATTERSON,

Committee.

JOHN SIDNEY HARRISON.

Dr. John Sidney Harrison died at Park View Hospital, Rocky Mount, on Monday morning of pneumonia and was buried at Cedar Grove cemetery, Elm City, N. C., Tuesday afternoon.

My friend and your friend, John Sidney Harrison, died yesterday morning at the meridian hour of his life, a martyr to his profession and a slave to his patients.

Words less strong than these would not convey the fullness of the deeds he performed, nor the arduous labors he wrought nor the sacrificial life he gave as an agency of ministrations to those whom he served.

For fourteen years he lived and moved among you as one of the choicer spirits for benefaction and good, and no spoken words nor written eulogy of mine are needful to convince you that he was born of heroic mould and carried within his breast the burnished character of true manliness and a heart of pure gold.

I regard his passing away as nothing less than a calamity to this neighborhood and these people whom he served with a fidelity seldom equalled and never excelled; and I fear it will be long, long years before the like of him will be seen in your midst again.

Constant in service, faithful in duty, unmindful of his own physical comfort or personal pleasure he toiled during the heat of day and amid the shadows of night, and wearied not, helping as best he could with heart and hand to comfort and soothe the sorrows and the afflictions of his fellowman.

He was abundant in his labors and heroic in his sacrifices, magnanimous in his charity and generous to a fault, till even

in the final count where his overtaxed body became an heir to physical disorder and the sad victim of grave disease. His last hours were those of great suffering and restless pain. Those to whom he had been so thoughtful and so kind would gladly have spared him this unrest, but they were helpless to lift the shadows from him or give relief to the sufferings he was doomed to bear. Associated with him fourteen years and knowing him in the fullness and completeness of his character as perhaps none others knew so well, I can add my testimony that his life was without reproach and his character without a stain.

Pure in thought and pure in deed, the memory of him will ever be, like the aroma of some sweet flower or the gentle smile of a tender child.

I shall sadly miss him and so will you, but let us hope with an unbroken faith, that God has called him unto His own and upon his head has placed a worthy and royal crown.

E. G. MOORE, M. D.

Elm City, N. C.

Southern Medical Association Meeting Postponed.

The following letter has been received:

To the Members and Friends of the Southern Medical Association:

At this late hour it is with deep regret that we find it necessary to postpone for a year the twelfth annual meeting of the Southern Medical Association which was to have been held at Asheville, North Carolina, November 11-14. The reason for this is the epidemic of influenza which has reached every nook and corner of our territory, and is now engaging the attention of the profession to such a degree as to render it impossible for them to leave home for some time to come.

To the untiring efforts of the Asheville Committees on Arrangements, to the officers of the Section on Medicine, Section on Pediatrics, Section on Public Health, Section on Surgery, the Southern States Association of Railway Surgeons, Section on Eye, Ear, Nose and Throat, and the Conference on Medical Education, who under the greatest difficulties have gotten up what is probably the best program ever presented to the Association; to the officers and members of the American Association for the Study and Prevention of Infant Mortality, to the National Malaria Committee, the American Society of Tropical Medicine and the Southern Gastro-Enterological Association,

who were to meet conjointly with us; and to the various distinguished guests who had consented to attend our convention, we wish to express our especial disappointment at this unexpected and unfortunate turn of events.

The various papers that were to have been read will be published during the coming year in the Journal so that there will be as little break as possible in the record of the scientific advancement of Southern medicine and surgery.

Next year the Association confidently expects to have the greatest meeting in its history and trusts you will make your plans to be with us then.

Respectfully,

C. P. Loranz, Business Manager,
Birmingham, Ala.

October 15, 1918.

CHANGCHOW GENERAL HOSPITAL.

Changchow, Ku., China.,
September 12, 1918.

Dear Editor:

Eight years ago at the Hankow meeting of the China Missionary Medical Association I reported operation in a large ovarian cyst in a Chinese lady who had been tapped four times, she said, for ascites. In large ovarian cysts I have been using the two stage operation in cases where the patient's general condition precludes removal at one sitting. Recently I had two large ovarian cyst cases in Chinese up for operation both of them having had extended treatment for ascites. One of them was in good condition for operation in spite of her former treatment so using the usual precautions at operation I relieved her of her burden and she made an uneventful recovery. The second lady, age 35, had been confined to bed five months during which she was taking active treatment for ascites. She had been a moderate daily consumer of Chinese wine for a long time and showed moderate hardening of the radial arteries, swelling of the feet, but no heart or kidney lesion so on my second visit by a process of elimination I made a more or less brilliant diagnosis of cirrhosis of liver with ascites, etc., explained mainly by mechanical obstruction of the vana cava, etc. I had made vaginal examination which was negative and there was marked protrusion of the umbilicus. But I was fortunate enough to be called a third time to see this patient at her residence when I got tympany in the left side near the lumber re-

gion over the descending colon when I became very much excited and told them that my former diagnosis had been entirely wrong and that the patient must have ovarian cyst and that she should come to the hospital for operation. The patient at this began to cry but showed up at the hospital in a few days where now a beautiful board hangs bearing a full description of her disease, the operation and recovery in high wen li. In the hospital we proceeded as follows:

She entered hospital on July 12th and on 13th we gave her a hypodermic of Morphia Gr. 1-6 with strychnia Gr. 1-60 one half hour before bringing her to the operating room where we made an incision 3 center meters long in the median line half way from the umbilicus to the pubis down through the peritoneum which was stitched to the cyst wall, colodion applied all round and then the ordinary sized ovarian trocar introduced and 18 lbs. of dark brown fluid drawn off which gave marked relief. I used 1-2 per cent. cocaine solution as a local anaesthetic for the abdominal incision and the patient complained of no pain whatever. The opening in the cyst wall was closed by purse string suture of cat gut as the trocar was removed and sterile dressing applied for the abdominal wound was not closed as the patient having gotten this relief might have gone home but would not be likely to with the knowledge that her abdomen was still open.

Now every means we thought wise were used to improve her general condition for 10 days when she came up for her final operation. Before being brought to the operating room she had two hypodermics of Morph. Gr. 1-6, Scopolamin 1-100 and strychnia 1-60 one and one half hours before operation. At operation we cut out the former scar and found firm adhesions all round same between the cyst wall and the peritoneum. We drew off the fluid from the cyst and then slightly enlarged our incision and removed the cyst sac while the nurse made constant pressure over the epigastrium. On completion of the operation the nurse who was giving the chloroform reported 1-2 dram as total amount given patient during the operation. Patient was given an intravenous of normal saline before leaving the table followed by the routine shock enema on reaching her bed and one hour later another intravenous of 800 c. c. normal saline as the head nurse thought she was dying. She made a nice recovery and as we did not spill one drop of the contents of the cyst into

the abdominal cavity we expect the cure to remain permanent. One other point, the first case above showed the single differential diagnostic point of left sided tympany but pedicle was found on right side at operation, while the second patient also showed the same left sided tympany with none obtainable on right side while pedicle was found on left side at operation. I feel absolutely sure the two stage operation saved the life of the second patient.

W. B. RUSSELL, M. D.

Dr. B. J. Willingham, of Wilmington, N. C., died October 8th. He was a prominent citizen and a well-known physician. He died from the effects of influenza complicated with pneumonia.

Dr. Willingham graduated at the Medical College of Virginia in 1906. He received his license to practice medicine this same year. He also joined the State Medical Society in 1906. As a member of the State Board of Medical Organization he was popular and prominent.

Tuberculin in Eye Diseases.—Verheyden (British Jour. Ophthal), makes the plea for the more frequent use of tuberculin in strumous eye affections involving the conjunctiva, cornea, iris, ciliary body, sclera, choroid and tuberculous paralysis of the third nerve. A number of cases are detailed in which this treatment was highly satisfactory. Concomitant treatment consisting of 4 per cent. solution of dionin and subconjunctival injections of saline solution are useful adjuvants. The writer includes that many eyes will be saved by tuberculin which would formerly have been lost or greatly damaged. Carefully tested and manipulated, risks of accidents from tuberculin are negligible; the results will be most gratifying in confirming a doubtful diagnosis and in ameliorating or altogether curing these serious and rebellious diseases.

Dysenteric Rheumatism.—Dorendorf has seen 59 cases of this affection which he also speaks of as a "rheumatoid." It is essentially a phenomenon of convalescence and is more prone to attack the rheumatic than the hitherto normal subject. A bacterial cause or infectious nature has not yet been shown to exist. The affection does not yield to antirheumatics or to specific antisera. It is very obstinate toward treatment but will end in recovery with time.—Correspondenz-Blatt für Schweizer Aerzte.

BOOK NOTICES

Abstracts of War Surgery. An Abstract of the War Literature of General Surgery That Has Been Published Since the Declaration of War in 1914. Prepared by the Division of Surgery, Surgeon General's Office. Price \$4.00. St. Louis, C. V. Mosby Company, 1918.

Preface. The preparation of these abstracts, in common with many of the other early war activities, was an emergency war measure. Much of the excellent surgical work which had developed as a result of French, English and Italian effort had to be appropriated by our medical personnel at a time least favorable for quiet mental effort.

To meet the needs of the situation, the Division of General Surgery of the Surgeon General's Office prepared, collected and arranged abstracts of the important general surgical papers bearing on war surgery; and, after having them mimeographed, distributed one hundred of them to various surgical instructors in the Army Surgical Schools, and to the surgical chiefs of the war hospitals.

The volume must of necessity be regarded as a condensed text for ready reference. Most of the abstracts have been used through the courtesy of Surgery, Gynecology and Obstetrics, the Journal of the American Medical Association, the Medical Record, the Military Surgeon, and the New York Medical Journal. Some articles in the British Medical Journal and in Surgery, Gynecology and Obstetrics were so fundamental that they were abstracted with a minimal amount of paraphrase. To all these journals and to any other that through inadvertence may not have been mentioned, we express the sincere thanks of the Surgeon General.

This book, of 434 pages including the index, makes a very nice volume. It is a valuable book, and for the Surgeon General who is interested in Abstracts of this kind, it is invaluable.

Radio-Diagnosis of Pleuro-Pulmonary Affections by F. Barjon, translated by James A. Honeij, M. D., Assistant Professor of Medicine in charge of Radiography, Yale Medical School. New Haven Yale University Press, London: Humphrey Milford, Oxford University Press MDCCCXVII. Price \$2.50.

Most timely and of immediate value to the medical profession is Dr. Honeij's translation of Barjon's important work. The volume sets forth in a concise and

clear manner the interpretation of the shadows in various chest affections, emphasising the scope of Roentgenological diagnosis and the importance of co-operation between the clinician and the Roentgenological diagnosis and the importance of co-operation between the clinician and the Roentgenologist and the value of supplementing with laboratory findings (serum reaction, tuberculin test, and Wassermann), the radiosopic findings.

Beginning with an exposition of the radiosopic examination of a normal chest, the author proceeds with a discussion of pleurisy pneumothorax, foreign bodies in the bronchi, bronchial affections, tracheo-bronchial adenopathy, vascular processes, acute infectious pulmonary processes, chronic pulmonary processes, pulmonary tuberculosis and pulmonary tumors.

This book contains a chapter of particular interest at this time on penetrating wounds of the thorax by projectiles.

This is a book of 183 pages, printed on nice paper, and it makes a very attractive volume. It is thoroughly indexed, but not very thoroughly illustrated.

In Every Time of Stress

and difficulty for over ninety years The Youth's Companion has stood by the family. It has cheered and encouraged and entertained—delighting all, informing all, and making home life and loyal sentiment the ideal of all. For 1919 the publishers intend to make the paper worth more to family life than ever before. The splendid Serials alone are events in next year's reading in the family life. Hundreds of Short Stories and Articles by great contributors, and a steady stream of helpfulness in everything from the solid and serious to the happy humor for which The Companion is famed. In these days the whole family needs The Companion, and it is still only \$2.00 a year for 52 splendid issues.

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Transactions of the College of Physicians of Philadelphia. Third Series, Volume the Thirty-ninth. Philadelphia. Printed for the College, 1917.

Building Up After Long Illnesses.

During convalescence from a long illness a requisite is an agent that will improve the quality of the blood-stream and thus aid the ordinary recuperative powers of the run-down system.

Cod liver oil has proven its worth for this purpose, for which reason it is held in high esteem by the profession. The vital powers have been badly depleted during the protracted acuteness of the illness, and the need for a proven replenishing agent is urgent. At the time of making a choice of reconstructives, it must be borne in mind that one must be chosen of definite therapeutic power and which at the same time will not prove objectionable to the patient and become intolerable. If *Cord. Ext. Ol. Morrhuæ Comp.* (Hagee) is the agent chosen, the physician may know that he is employing a preparation of worth and which, owing to its palatability, may be given freely and for long periods without causing the least distress.

As a means of building up the system after a long illness *Cord. Ext. Ol. Morrhuæ Comp.* (Hagee) is of well proven merit and may be fully relied upon.

Salipyrin is a well-formed substance, coming from antipyrine and salicylic acid, remedies of value even singly; while their real worth is well illustrated in combination. Salipyrin, however, does not suggest an idea co-extensive and interchangeable with that of antipyrine and salicylic acid; since these have many effects (cyanosis, deafness, disease of the labyrinth, stimulation of the brain cortex, derangement of the stomach) which may never come into any action of Salipyrin, or, if they do, may never connect themselves with it so strongly. Doctors differ; but on the whole it seems pretty well proved by the reports of the most respectable authorities that Salipyrin is less toxic than antipyrine, less depression and less irritating than salicylic acid.

Miscellaneous.

The Value of Amyl Nitrate Inhalations in the Diagnosis of Mitral Stenosis.—Morison, in *The British Medical Journal*, mentions the fact that mitral stenosis develops insidiously and symptoms of a really incapacitating nature are frequently absent until the lesion is well advanced. In soldiers it is often discovered accidentally during the routine examination of a man reporting sick for a trivial complaint. In young soldiers, when very early and uncomplicated, it is unaccompanied by subjective symptoms which are characteristic. The number of borderline cases appears to be remarkable, until it is remembered that the strains to which the men are subjected are precisely those calculated to call forth symptoms in early cases. Advanced mitral stenosis has been largely kept out or sorted out of the army, and patients who suffer from "irritable heart" in the absence of structural change very frequently present such signs as accentuation of the first heart sound, accentuation or reduplication of the second heart sound, signs which are credited with significance in the early diagnosis of mitral stenosis. In dealing with military patients a clear decision is most desirable; it is imperative when, in sorting cases bearing cardiovascular diagnosis, tolerance of exercise is largely relied upon. Men with structural heart disease are to be guarded against overexertion. We may take a diastolic (presystolic) rumble or thrill, or both, to be the most positive and convincing sign of mitral stenosis, and it is at present inadvisable to diagnose this lesion in the absence of such a murmur. Any method, therefore, which accentuates such a murmur, or discovers it, must be of considerable value.

Amongst patients who fall near the diagnostic border-line (a border-line which it should be clearly understood varies according to the skill, experience, and opinion of the observer) there are a number of patients who present no suggestion of mitral stenosis when they are examined standing, but who present unequivocal signs while lying down; there are a number who present inconclusive signs of stenosis while standing, but signs of stenosis become clear on lying; still a further number who exhibit no conclusive signs standing or lying, but in whom the diagnosis is no longer in doubt while they lie after exercise. At the Military Heart

Hospital at Colchester all cases are auscultated standing and lying, and lying after exercise, and a considerable number of presystolic murmurs are detected which would otherwise escape observation.

Amyl nitrate is used as a further test in doubtful cases; its action, like that of exercise, is to increase the flow of blood through the A-V ring, a change which favors the production of the murmurs in question. Morison desires to give his early impressions and experience of amyl nitrite. The observations are not based upon post-mortem evidence, but upon the assumption that a clear presystolic murmur signifies stenosis in the absence of aortic disease. On that assumption it is clear to us that amyl nitrite will often bring to light a clear presystolic or full diastolic murmur in a patient lying on his back, who had exhibited no murmur previously, and will thereby render an early mitral stenosis diagnosable.

In twelve cases in which presystolic murmurs were suspected, but in which they could not be recognized with any degree of certainty, amyl nitrite (inhaled from a 3-minim capsule until a reaction was evident) brought forth unmistakable murmurs in six instances. Amongst the first signs of early mitral stenosis is an accentuated first sound; from this sign the sounds pass to a simple reduplication with accentuation, to perhaps a triplication, and thence to what may or may not be termed a murmur, according to the idiosyncrasies of the examiner.

The point which is to be emphasized is that amyl nitrite, in a large proportion of cases, will raise the scale of the signs, bringing them nearer to a point where a diagnosis becomes clear.

As to the cases in which amyl nitrite has the reverse effect, and produces a lowering of the scale, in some cases abolishing a diastolic murmur, Morison speaks with more confidence, yet it is extremely suggestive that this reversal of the usual effect has been witnessed for the most part in cases in which aortic regurgitation was undoubtedly present, and where consequently the murmur may have owed its origin to a different cause (Flint murmur). Whether it will prove ultimately that the test serves to differentiate the Flint murmur remains for the future to decide; so far as military diagnosis is concerned, it is a point of lesser importance; the point for which publicity is desired is the usefulness of the drug in bringing out clear presystolic

murmurs in cases in which mitral stenosis is suspected but not proved.

In the book "The Crowd, A Study of the Popular Mind" (LeBon), there is related the story of a shipwrecked crew on a raft, watching eagerly for some sign of a rescuing vessel. After some days of the great physical discomfort and mental anxiety imposed by their condition, one of the men saw on the horizon what he declared was a sail. His companions saw it too, and because they wanted very much that it should be a sail, and because of the poignant hope in their breasts that it might be one, they came to think as did the first observer, that it really was one. And then when they came to it, they found it only a tree which had been uprooted in the storm.

There have been frequent occasions in the history of medicine and pharmacy when much heralded new remedies or so-called specifics proved to be "trees" rather than the hoped for "sails."

But interesting as is this phase of the psychology of the delusions of the popular mind, more interesting are the psychical processes of those who, in spite of absolute proof of the existence of a thing or the value of some scientific principle or theory, refuse to accept a "sail" as a "sail" or accept it so grudgingly and use it, or permit its use so sparingly or half-heartedly that the good results possible from its application are never fully realized.

For instance, the value of diphtheria antitoxin at this time is no longer questioned by scientific men and by most of the laity. The mortality rate from diphtheria has been cut in two by its use in the last quarter of a century, and yet, statistics obtained from the registration area for the past few years show that the yearly mortality in this country from diphtheria is more than 23,000. There can be no doubt that such a high mortality rate is due in large part to antitoxin not being administered at all because of opposition to its use or objection to the cost, to its too conservative use as concerns dosage and method of administration and the fear of serum sickness, etc., or to its being injected too late to successfully check the disease process.

There are still some prejudices to be overcome and some old ideas and conceptions to be discarded if diphtheria antitoxin is to come into its rightful place as a life saver. The specification by physicians and druggists for high grade, concentrated, purified antitoxin (Eli Lilly &

Company, Indianapolis, Ind.) packages to meet dosage requirements and all methods of administration and at such prices as make its administration possible in even the poorest cases will in a great measure assist in this readjustment.

Treatment of Septicemia by Passive Intravenous Injections of Saccharated Serum.

Audain and Masmonteil (La Medicale) attribute to this activated serum a leucogenic function, since the count rises very shortly after the injection from 5,000 to 7,000, to 25,000, indeed, in less than half an hour, and was continuous for two or three hours; it then dropped to 16,000. There is a transitory elevation of temperature, .7 of a degree, usually heralded by a heavy chill and followed by a drenching sweat. The value of the injection is based on its power to inhibit the formation of the leucocytes. Moreover, it is distinctly nutritive since the daily injection of 100 grammes of sugar distinctly adds to the patient's resources. Finally, it has a diuretic action and is a stimulant. By employing isotonic solution there is no fear of a hemolytic action. Glucose, saccharose, or lactose may be employed. Whichever is used should be isotonic—i. e., 47.60 to 1,000 for glucose; 103.50 to 1,000 for saccharose; 108.90 to 1,000 for lactose. Usually from 300 to 500 grammes are injected at first. Later when patients are profoundly septicemic and have had previous treatments from 1,000 to 2,000 grammes may be injected daily, given in two or three doses. The test of the quantity to be employed is based on the leucocytic count. This should be driven up to about 25,000. Another sign of adequacy lies in the development of a heavy chill.

The authors state that they have not treated many cases, but that the results obtained are very encouraging. They consider the treatment as long as twelve days with heavy doses, and have observed a fallen temperature and pulse-rate, free diuresis, and the development of multiple sterile abscesses. Treatment is not stopped until fever has disappeared four or five days.

The Importance of Nasal Prophylaxis.

In view of the prevalence of what has been termed Spanish influenza, especially in the eastern section of this country, a great deal of attention is being devoted to the prevention of nasal infections generally. Among the various prophylac-

measures suggested, such as prompt isolation of cases, avoidance of crowds, proper ventilation and other hygienic regulations, none are deserving of such painstaking attention as routine cleansing of the mucous membranes of the nose, mouth and throat, in order to prevent the lodgment and growth of the infecting organism, whether it be the influenza bacillus or streptococcus, or both.

For this purpose peroxide of hydrogen is particularly adapted because of its well established antiseptic and cleansing action upon the mucous membrane, and withal its great safety. It is very important, however, to select a peroxide which is unirritating, because any irritation of the nasal tissues that may result from its use will tend to invite rather than prevent bacterial invasion. A peroxide of hydrogen that is particularly noted for its bland and soothing character, as well as its antiseptic potency, is Dioxogen.

Indeed the remarkable freedom of Dioxogen from the slightest irritating effect, together with its notable bactericidal action, render it eminently suitable for the disinfection of the mucous membranes of the nose, mouth and throat, and make it an exceptionally serviceable agent for maintaining nasal prophylaxis.

Dioxogen is tasteless and odorless, and can be employed as freely as needed, with certainty that only benefit will result from its use. Unquestionably there is no other germicide or antiseptic that has proven so useful in every way or that has justified such complete confidence in its quality and efficiency.

The Physiology of the Aviator.—McWalter, in *The London Medical Press*, points out that officers in charge of training squadrons have no time to waste on pupils who are slow to learn, who are lacking in enterprise, who are unlucky with their machines, or who seem to exhibit any lack of keenness for their work. Learners of this stamp are forthwith rejected as unlikely to develop into efficient airmen.

He says that those who, like himself, have served as medical officers to the flying corps, know that many of these men, rejected as inefficient, are really the victims of various physical ailments, as diseases of the ear, nose, throat, spinal cord, or heart, or are the subjects of transient trouble such as hay fever, coryza, or influenza. Moreover, it must be taken into consideration that the physical qualifications of a flying officer become higher every day. Men are now required as a

matter of course to fly at 15,000 to 20,000 feet or more, and putting on one side the troubles due to extreme cold or to atmospheric rarefaction at great heights, which may be overcome by artificial means, a person has to possess a remarkably elastic vascular mechanism before he can descend with impunity and in a few minutes, from a height of 20,000 feet. Not only must the cardiac muscle be in a healthy state and the heart generally be in a robust condition, but the lingus and bronchial membranes must be sound and must also be proof against the irritation engendered by the heat and smoke of the engine or by the varying moisture of the air. In short, a man to be passed medically for the flying corps must be in the first instance young and must be in addition strong constitutionally and fit and sound in every respect. A man may have all these absolutely essential qualifications and yet not be competent as a flier. Defects existing in the nervous system or in the ear and nose, less often the eyes or throat, are sufficient to disqualify.

This writer says that the most usual and, at the same time, the most dangerous defect, is some disease of the labyrinth. In examination this defect is often overlooked, being unlikely in its milder forms, to cause any acute trouble until the patient has mounted some thousands of feet, when it then gives rise not only to vertigo and dizziness, but to a lack of that sense of equilibration and location which is the very essence of the successful flying man. Also it has been found that those aviators who experience most difficulty in judging of the distance from the ground when approaching a landing place, are frequently the subjects of this defect. In the opinion of this writer the entire series of rhinological ailments, stenosis, sinusitis, hypertrophy of the turbinated bones, Eustachian tube troubles, even pharyngitis and tonsillitis, all render in a greater or lesser degree a man unfit to fly.

It is then obscure defects and those which in other circumstances might be regarded as minor defects which constitute, perhaps, the chief disabilities of the would-be flying man. As long as flying was done at relatively low heights these defects were of not much account, but now that a good deal of the flying is done at 15,000 or 20,000 feet their significance is grave.

The French authorities have a method whereby they submit the aviator neophyte to a series of nerve shocks to test

the integrity and stability of his nervous system. However, it is asserted that this system fails in its object to a large extent because the phlegmatic individual of good physique and of excellent constitution may pass with ease and yet be found wanting. He lacks the higher qualities of initiative, enterprise, resource, ingenuity, and readiness which go to make the ideal aeronaut and which the frail, highly strung man of delicate nervous organization often does possess. In proof of this it may be said that some of the best fliers have been men of this type. Prompt reflexes, intact cerebellar sense, perfect sense of projection, are among the most important tests for an aviator. All catarrhs, especially nasal and bronchial, are constant sources of danger. Even a tendency to wax in the ears seems to produce a dangerous giddiness and vertigo. The pulmonary apparatus must be in first class condition, and the tests to prove this must be severe. The color tests should also be stringent, as it is through this sense that judgment as to the exact distance of the ground when about to land, is rendered accurate. Correct judgment in this respect involves an intact color sense because the various greens and browns of the landing place are often refracted through a bluish mist which obscures the true distance. Finally McWalters states that an accurate sense of projection in space, such as is elicited when a candidate can touch with closed eyes and object which he has once seen, is one of the surest tests of a man for aviation.

Examination of candidates for the aviation corps places now greater responsibility upon the medical man than does any other form of military examination. It requires on the part of the medical examiner a thorough conception of the problem from the point of view of the physiology, psychology, and pathology of the aviator. It must be borne in mind that comparatively little is known regarding the medical aspects of aviation. The literature is scanty and experts are naturally few. However, some salient points stand out. The candidate must be young and physically and constitutionally sound. Especially must the ear apparatus of the flying man be practically perfect. Therefore it is incumbent on the medical examiner to look carefully for such defects. Likewise the whole series of rhinological disorders must be eyed askance in examining an aeronautical candidate. The tests should be in every instance severe and searching, as

the fate of liberty may depend on the efficiency of the flying man.

GRIPPAL PAINS.

Probably the most distressing symptom of an influenzal attack is the severe and often excruciating pain in the back and limbs. Although there are various internal remedies for its relief, the effect is not always as rapid as the patient desires. In these cases it has been found that the local application of Baume Analgesique Bengue causes a speedy amelioration of the patient's suffering, and if its use is continued in connection with internal medication, a much more satisfactory effect on the systemic condition is produced.

As is well known this preparation has gained an enviable reputation in the treatment of neuralgias of various kinds, and its association with internal analgesic remedies is, therefore, a very logical and advantageous procedure in cases of grip-pal pain.

In this connection attention is called to the announcement on page 23 in which the profession is notified of the discontinuance of samples of Baume Analgesique Bengue. This has been occasioned by the request of the Government to pharmaceutical firms to exercise all possible economy in the use of important drugs and chemicals. Although until the close of the war, therefore, there will be no further distribution of the well known "triplet" samples of Baume Analgesique Bengue, the physicians of the country are assured that there is an adequate supply to insure prompt filling of their prescriptions and to meet all professional requirements.

The Influence of Menstruation on Acidosis in Diabetes Mellitus.—Harrop and Mosenthal (Bulletin of Johns Hopkins Hospital) report a case of diabetes mellitus in which menstruation seems to have exerted a marked effect on the condition of the patient. The case is especially interesting as the authors, in a search of the literature, were not able to find any reference to the effect that menstruation may have on acidosis. The patient was a girl eighteen years old who entered the hospital on September 21, 1917, was discharged on November 11th, and died on November 27th. On admission she was suffering from a severe type of diabetes mellitus with a marked degree of acidosis. The urine could be made only temporarily sugar free by starvation; the acid substances in the

urine were fairly high; the percentage of ammonia nitrogen of the total urinary nitrogen was above the normal and the carbon dioxide tension of the alveolar air was low, in spite of the fact that she was given large amounts of bicarbonate of soda. Although the patient was weak, she showed none of the subjective symptoms accompanying marked acidosis and impending diabetic coma. Every attempt was made to improve her condition, so that at the end of one month the acidosis was less, though it was impossible to increase her carbohydrate tolerance. On the 28th of October, at the beginning of the menstrual period, her condition changed completely. There were marked hypernea and twitching of the facial muscles; she was extremely drowsy, and very restless at times, and the carbon dioxide tension of the alveolar air was twenty mm. The following day the symptoms were the same. On the third day she began to improve and when menstruation had ceased all the symptoms had disappeared. She was given large doses of bicarbonate of soda by mouth, rectum, and intravenously, and was subjected to starvation treatment. During this time the tests showed no appreciable increase in the degree of acidosis, though there was a slight rise in the amount of acid substances and ammonia; the glycosuria and the quantity of nitrogen in the urine were both much increased. The patient left the hospital and at the next menstrual period the same sequence of events occurred. Deep coma came on at this time and the patient died. Harrop and Mosenthal sum up the case by saying that menstruation was accompanied by an increase in acidosis, the symptoms becoming more marked with each successive menstrual period, until fatal diabetic coma occurred. They suggest that possibly diabetic patients should be closely watched during the menstrual period.

Delayed Primary Suture.—Ball, in *The London Lancet*, says that the ideal method of treating a wound after cleansing and excision of damaged tissue is primary suture, but that there are conditions which render this method impossible and in such cases it is most desirable to practise the so called delayed primary suture. In order to bring the desirability of this method of treatment to the notice of surgeons the author presents his own results in a series of 100 consecutive cases. Among the 100 cases there were fifty-nine complete successes,

twenty-six partial successes and fifteen failures. A partial success was recorded when there was any stitch suppuration or an opening of the wound without supuration. An adequate primary excision of the wound is essential as a prerequisite of delayed primary suture. Those wounds, which on removal of the packing have a dry or slightly moist surface and are free from pockets of pus or unexcised damage tissues, are suitable for delayed primary suture. Suture should be carried out on the second to fourth day from the receipt of the wound. A dry, clean wound should be sutured without being touched, but a moist one should be washed out with an antiseptic. Old or fresh blood should also be washed from the wound before suture. Before removing the wound packing the skin must be scrupulously cleansed with ether and some antiseptic, preferably two per cent. picric acid in alcohol. All dead spaces must be obliterated, for which deep sutures of catgut or thread may be used if required. Fascia or the muscle sheath should be sutured over muscle if possible. Where there are fractures as many tissues as possible should be drawn together over the break. The skin should be sewed with silkworm gut. Every wound should be completely immobilized by splinting, plaster, extension, or other suitable means. The skin sutures generally should be removed on the eighth day, but may have to be left longer. The method has many advantages among which are: The greatly increased rapidity of healing, the average time having been less than ten days; the shortening of the period of healing even in the cases which are only partially successful; the avoidance of large and deep deforming scars; the immediate covering in of exposed vessels; the conversion of compound into simple fractures; and the avoidance of many painful dressings. The criteria for the selection of wounds suitable for delayed primary suture should be the clinical appearance of the wound, not its bacteriological cleanliness.

Acute Intestinal Obstruction by Tape-worms (*T. Saginata*).—J. B. Christopherson and Mustafa Izzedin of Khartoum suggest that the occurrence of intestinal worms causing acute obstruction is so infrequent in those countries where surgical text-books are compiled, that authors as a rule do not even mention them as a possible cause. Nevertheless intestinal parasites are a very real source of

danger in tropical countries, and they should be borne in mind as a possibility when exploratory operations are undertaken for acute intestinal obstruction.

Perret and Simon summarize the histories of eleven cases of intestinal obstruction all due to *Ascaris lumbricoides*, all recorded since 1887. Most of these cases were diagnosed at the necropsy or during operation. De Mello and Masters have each recorded one case of intestinal obstruction due to *Ascaris lumbricoides*; in none of the three last was laparotomy resorted to.

No doubt *Ascaris lumbricoides* is the principal offender amongst intestinal worms, but the following case proves that laparotomy may have to be done for acute intestinal obstruction due to tape-worms (*Taenia saginata*).

O. H., male, Sudanese, aged 40, working as a gardener in the Palace Gardens at Khartoum, was admitted into Khartoum Civil Hospital with a very much distended belly and total suppression of feces and flatus for sixteen hours. The attack seemed to come on suddenly but without pain at 5 p. m. He vomited twice during the night and the belly became more and more distended.

On admission to hospital the following morning the belly was much distended and tense, and the coils of intestines were very evident; peristalsis was plainly seen, and considerable discomfort was experienced owing to the distension, but there was no obvious pain; the pulse was 84, full and regular. He could pass neither feces nor flatus; rectal examination revealed only an empty rectum. Two or three enemata were given without effect. Vomiting of intestinal contents occurred twice after admission, and exploratory operation was decided on.

Operation: Chloroform was given, and a median incision from the xiphoid cartilage to the symphysis pubis was made. The small intestines were explored from duodenum to ileo-cecal valve; they were very much distended. The large intestines were collapsed from the cecum onwards. No cause for the obstruction being found, it was thought to be a "kink" or some equally unsatisfactory thing.

The small intestines were taken from above downwards and passed through the gloved hands, segment by segment, to squeeze onwards the flatus. This was not satisfactory and the imprisoned air was evacuated by puncturing the bowel wall in at least six places with a medium sized trocar and allowing the air to es-

cape. When the small intestines were thus relieved and collapsed they were replaced inside the peritoneal cavity—the whole of the distended small intestines (ileum) having been lying in a towel outside the abdomen while the abdominal cavity was searched—the wound was sewn up in one of the usual ways and the patient sent back to bed with the distension altogether relieved.

After-History: No flatus or feces were passed on the day of the operation, and next morning the abdomen was a little distended again, but during the morning flatus was passed and he felt more comfortable; two enemata (turpentine) were given.

On the third day after the operation a long tube was passed by the rectum and a dose of 1 1-2 oz. of castor oil administered by the mouth; a large mass of tapeworms was passed. The patient passed bits of tapeworms on several occasions during the next three days.

Owing to a little leakage from one of the trocar punctures in a coil situated in the pelvis an abscess formed. This was localized, however, and although it became infected with *B. coli* and was very foul, recovery was retarded not more than two or three weeks.

Undoubtedly the mass of tapeworms (there were probably four or five separate ones), which measured when freed from intestinal debris two or three pints, had become blocked against the ileo-cecal valve, causing mechanical obstruction; and if this had not been relieved by manipulation of the intestines and evacuating the flatus, the patient would probably have died.

The principal points about the case appear to be the following: Absence of pain even at onset, or afterwards, although the obstruction was acute. There was discomfort certainly due to over-distension. There was very little, if any, collapse. The pulse was fairly good and, sixteen hours after symptoms commenced, was only 84. There was, however, fairly frequent vomiting of intestinal contents (in the cases recorded of obstruction due to *Ascaris lumbricoides* the worm was frequently vomited), but absence of acute pain and very little collapse, together with acute obstruction symptoms, may be taken, we think, as a characteristic of obstruction due to intestinal parasites.

In the case here described there was no question of delaying the operation, such a course was contraindicated by the vomiting, distension and peristalsis and

total suppression of flatus and feces. The obstruction was complete.

The diagnosis of the cause of intestinal obstruction is such an important subject that we do not think any apology is necessary for recording this case. Operations for intestinal obstruction are among the most fatal in surgery. Statistics place the mortality at 60 to 70 per cent., doubtless due to the fact that most cases are operated on when too late; but it is also due to the fact that diagnosis remains so often uncertain until after the abdomen has been opened, and to the fact that, even if a correct diagnosis is established before the abdominal incision is made, the condition of the parts involved is a matter of speculation, and is usually worse than is apparent from the symptom.—British Medical Journal.

Not Due to Birth Control.

The discontinuance of the famous "triplet" samples of Baume Analgesique Bengue as announced by Thos. Leeming & Co., on page 23 is not to be taken as part of the birth control movement. On the contrary it is simply the outcome of the War Board's urgent request that all possible economy be exercised in the use of important drugs and chemicals. In response to this request, the customary mailing of the "triplet" samples of Baume Analgesique Bengue will be suspended until the close of the war. It will be welcome news, however, to the many physicians who have long depended on the "Baume" as their favorite local anodyne and analgesic, to learn that their prescriptions will continue to be filled by the drug trade, as there is an adequate supply to meet all professional requirements.

Prevention of Sickness in the British Army.—In a general sense the British Expeditionary Force in France is the healthiest community in the world. It is mainly composed of young men of selected physique who are well fed and well clothed, and who lead a healthy life in the open air under such conditions as are possible; there is limitation to this "possible" imposed by military necessities, such as overcrowding in huts, tents, barns, cellars, dug-outs, and billets, and the exhausting effects of exposure to bad weather, want of sleep, and neglect of personal cleanliness during prolonged tours of duty in the trenches. These unavoidable and irremediable exceptions to healthy conditions are quite sufficient to justify a recurrence of those diseases which destroyed armies in the past, but

the long hoped for impossible, the miraculous, the inconceivable has materialized; the scientists have triumphed, and typhoid fever and dysentery which previously decimated armies in every part of the world, have been eliminated. Typhoid fever is now a negligible factor, and dysentery occurs only under exceptional circumstances. The most successful generals in the great war are those generals of science who have won such decisive victory over the ubiquitous and elusive typhoid bacillus; it has been an uphill struggle of twenty years' duration, marked by adversity, opposition, and accident, but inoculation has at last been universally accepted as essential for the purpose of the war. As an aid in the prevention of typhoid fever the search for and segregation of carriers has doubtless played a part. The experiments for ridding carriers of their germs have not been successful. Carriers are not allowed to return to the army but they are taught how not to be a danger to the community and are sent to their homes. Dysentery has not lived up to its historical reputation. The troops are well fed on the army ration, supplemented by fresh vegetables and other extras purchased locally and the water they drink is that drunk by the inhabitants, made doubly safe by sterilization. Consequently their resistance to this disease is high. There was, however, a local outbreak connected with one of the British advances into a devastated area, studded with shell craters and pits, full of fouled water, which proved too tempting for thirty troopers; the outbreak entirely disappeared from the area on the restoration of a pure water supply. The local type of the disease is bacillary but sporadic cases of the amebic variety introduced by troops from India and the Mediterranean crop from time to time. The spread of the disease is controlled by mobile bacteriological laboratories which examine every suspected case, and by the segregation of carriers until they are germ-free. A prophylactic vaccine has also been prepared, ready to meet any further requirements. The prevailing diseases in this war are fortunately of a much simpler and milder type. The commonest diseases are trench fever, boils, and scabies. Trench fever is accountable for about one per 1,000 of strength, skin diseases, boils, and scabies for about one per thousand, and a varied assortment of ailments, such as bronchial catarrh, sore throat, digestive complaints, myalgia, dental trouble, hernia,

and sporadic cases of infectious disease for the remaining half per thousand of strength.

Trench fever is a new disease peculiar to this war. Two clinical types of the disease are distinguished, the one a short fever of a few days, duration followed in four or five days by a single relapse and the other a longer illness characterized by the number, sharpness, and periodicity of the relapses. Headache behind the eyes and trench shin are the only constant symptoms. Reliable statistics prove that the disease is contracted in equal numbers by those in the trenches and those in rest billets near the trenches; very few cases originate behind the fighting area. The louse is under strong suspicion as an intermediary, but cases occur as far back as Corps Headquarters, under circumstances which seem to preclude that origin; there may, however, be more than one mode of dissemination. Trench foot is capable of destroying an army in a very short time. Preventive measures are equally sure of saving an army. The remedy to the unimaginative presents no difficulties, it is simply the maintenance of dry feet; but in practice it involves one of the most intricate problems in organization connected with the war. During the trench foot season—autumn, winter, and early spring—before starting on his tour of duty in the trenches each soldier has his feet washed and rubbed until they are warm, then whale oil or some grease is well rubbed into them. This application helps to keep the feet warm. The next duty is to put on dry socks and to receive a spare pair, sometimes two pairs, for future use. Rubber boots are better for wet trenches and leather for dry ones, irrespective of temperature. The air spaces in leather boots are non-conductors and conserve heat, they also allow a useful amount of transpiration. Rubber boots confine the perspiration, the feet and socks become sodden, especially after a long walk, and heat is gradually lost. A clean, dry pair of socks per man is delivered daily at the trenches by the ration party in exchange for a used pair; these are changed and the feet are rubbed and oiled in appointed dug-outs in or near the firing line. Other preventive measures are the provision of hot soup, cocoa, or tea during the night and arrangements for keeping every man exercised. The question of relief is also essential; it is not safe to keep men in cold, wet trenches for longer than four days, and in exceptional cases the tour is reduced to twenty-four hours.

Gunshot Wounds of the Peripheral Nerves.—Noon, in *The London Lancet*, emphasizes the importance of treatment, preoperative and postoperative, in cases of injuries of the peripheral nerves. Under the head of postural treatment, Noon points out that a position of relaxation should be maintained in all nerve injuries. In lesions of the musculospiral nerve a Jones's "cock-up" splint, or some modification of it, may be used to relieve the extensor muscles of strain. Operations on this nerve are doomed to failure if the paralyzed muscles are allowed to become overstretched and lengthened by permitting the wrist to be in flexed position of "drop" wrist. If the wrist is kept in good position, injuries of the musculospiral nerve are among the most including electric treatment and massage, should be employed to preserve the nutrition of the muscles, and it is important that the limbs should be kept warm; it is futile to apply electrical stimulation to cold extremities. Joint stiffness must be prevented by passive movements. Operation, if decided upon, should be done under a general anesthetic. Any lesion of the skin is an absolute contraindication to operation. Application of an Esmarch bandage is not recommended. The procedure is as follows: Skin incision, which should be of ample length; isolation of nerve trunk above and below site of lesion; passing the sutures and exact coaptation of ends of divided nerve; formation of a sheath at site of lesion; suture of deep fascia and closure of wound. The chief complications met in the author's series of cases were (a) those due to septic infection of the wounds, extensive destruction of the soft parts, and severe injuries to the bones; (b) extensive destruction to the nerve, resulting in a gap in its continuity, making end to end suture impossible. Drainage and rest for the inflamed parts were relied upon chiefly to overcome the septic conditions. In cases associated with compound fractures Noon points out that very careful treatment is necessary if necrosis with development of a persistent sinus is to be avoided. These cases should be thoroughly drained at the earliest possible date, and all loose pieces of bone which have not firm attachment to periosteum removed. Carrel-Dakin treatment or continuous irrigation should be employed when necessary. In cases of extensive destruction to the nerve, with care it will usually be possible to perform end to end suture. It is important that the incision should be of ample length, so that the

nerve may be separated from the surrounding structure, both above and below the lesion; in lesions of the ulnar nerve it can be displaced in front of the internal condyle of the humerus; and during and after the operation the position of the limb should be that of maximum relaxation, so that all tension is taken off the nerve. When nerve suture is impossible or when the functional result attained by nerve suture is unsatisfactory, this operation may be replaced or supplemented by tendon transplantation, the most favorable cases in which may be done being those of injury to the musculospiral and posterior interosseous nerves. From a study of 364 cases, 250 of which came under his personal observation, Noon has come to the following conclusions: (1) That the diagnosis of an injury to a peripheral nerve ought to be made at the earliest possible time. (2) Successful recovery depends upon early, correct, and continuous treatment. (3) Primary suture should be considered and practised whenever possible. (4) That there should be no unnecessary delay in exploring a nerve if there is sufficient evidence that it has received some injury resulting in a macroscopic pathological lesion. (5) It is almost certain that some macroscopical lesion is present in cases which show no signs of recovery after four months' treatment. (6) That operations on injured nerves should only be done in well-equipped general hospitals, and by those surgeons who have ample experience of such cases. (7) That sufficient attention is not usually paid to the early preoperative and postoperative treatment, and that paralytic deformities and shortened muscles are often the result of ignorance and neglect. (8) That the extreme gravity of an injury to a peripheral nerve is not sufficiently realized by the general profession.

Broken Sleep.—Rankin, in *The British Medical Journal*, comments on the widespread prevalence of sleeplessness since the outbreak of the war. The nervous system of the man breaks under the terrible strain, while the wife or mother at home is worn out by constant mental anxiety. Then there are those who have inherited a gouty diathesis and who are of the neurasthenic type, who find after middle life that their sleep is broken between 2 a. m. and 4 a. m. by a sensitive of gastric discomfort. Air raids and other disturbances are also factors which interfere with the normal night's rest. Rankin suggests that the remedy for in-

somnia in many cases may be found in attention to the details of routine habits and abstinence from serious work after dinner. A tablespoon of paraffin before breakfast will lubricate the intestine and keep the bowels in order, and once or twice every week 1 grain of calomel with $1\frac{1}{3}$ grain of extract of colchicum made into a pill with 3 grains of rhubarb or colocynth will provide for hepatic efficiency. A mild aperient water may also be used. To prevent gastrointestinal fermentation, he suggests periodical courses of about two weeks of 3 grains each of charcoal, betanaphthol, ox gall, guaiacum, taken incapsule form forenoon and afternoon. The evening meal should be light and meat and tea taken only once a day; a glass of some light wine may promote indigestion, and an ounce of brandy in hot milk, arrowroot, or Genger's Food question whether death during escape from the egg is due to the action of the fluids on the eggshell or to a want of robustness in the larvae.

The evidence as a whole seems to establish the fact that steeping for twenty minutes in a 2-per-cent solution, either lysol or the cresol soap, is quite effective provided the temperature is not below 50 deg. F.

Labor Obstructed by a Contraction Ring.—White (British Medical Journal) reported, in 1912, 3 cases in which labor was obstructed by a contraction ring. His attention was called to this condition by the examination of a uterus removed during labor by hysterectomy. This specimen showed that the contraction formed from a depression in the child's body and that the part below the ring was not pathologically thin. Thus the ring had no connection with the ring of Bandel, commonly called a retraction ring. The case now reported is that of a primipara in labor with whom a doctor had attempted to hasten delivery by manual dilatation of the cervix and the use of the high forceps and had failed. She had been in labor forty-eight hours. On admission, the head was in the cavity of the pelvis, the child was dead and in left occipitoposterior position. It was decided to wait for uterine contractions and perform craniotomy. When the fundus occasionally contracted, the head was perforated and with great difficulty extracted from the vulva with the cranioclast but the shoulders could not be delivered, even after cleidotomy and the fundus of the uterus became tetanic. As the patient passed into shock, a 7-pound weight

was tied to the cranioclast and the patient was stimulated by transfusion and external heat for between one and two hours. Delivery was then easily effected by bringing the arms down over the head and making light traction. The fundus was flaccid and the placenta temporarily retained; this was removed manually, and an intra-uterine douch was given. The mother recovered, but there was considerable sloughing of the vagina and urethra and ureter. His fifth case was a multipara admitted in labor with a dead uterus. There was a very slight contraction ring around the thigh of the child which did not yield to pressure. The mother being infected, the entire pregnant uterus was exercised. She made an uneventful recovery.

Scalp Flaps and Depilation in Plastic Surgery.—Cole (in The London Practitioner,) observes that hair grows freely on flaps taken from the scalp, and hence such flaps are often not available for remedying defects of hairless areas of the face. The advantages of a scalp flap are obvious. The area of tissue available is large, the residual scar is covered and screened from view by the surrounding hair and the blood-supply is so good that no fear need be entertained about the nutrition of flaps reaching even to the midline of the vertex.

The first patient he describes had a gross defect filled by a scalp flap and depilated by the application of x-rays. This patient had previously had six operations to close a large lesion of nose. A lateral flap was carried over and survived. The depilation was complete six months later. The objections often urged against this method of removing hair—i.e., that it is not permanent or that it will produce an eczematous condition of the skin—are not justified by these cases. No hair has grown on the flaps and the skin has remained soft, pliable, and perfectly healthy. In some cheek defects the depilated area of skin has been inverted to replace mucous membrane.

The use of scalp flaps to remedy defects in hair-growing areas of the face is by no means new. The author believes that formation of an entire upper lip by means of bilateral, transferred, pedicled scalp flaps is, however, an entirely novel departure in plastic surgery. The patient was first seen by the author after many unsuccessful operations. The mandible was viciously united and the mouth cavity was practically non-existent. There are a number of illustrations, the latter

showing the patient with a well-grown mustache of natural origin.

Destruction of the Nits of the Clothes Louse by Solutions of Cresol-Soap Emulsion and Lysol.—Bacot and Lloyd (*British Medical Journal*), conducted a series of experiments with a view to determining methods of destroying the nits of the clothes louse. From conversations with officers in charge of the establishments devoted to the disinfection of the clothing it appears that a precautionary measure frequently employed is to steep infected garments in a vat containing solution of cresol-soap emulsion. There exists, however, some uncertainty as to the strength of the solution and period of immersion necessary to destroy the nits of *Pediculus humanus*. In this connection it may be appointed out that overlapping methods of disinfection should, if possible, be avoided in the interests of economy. Hot water or dry heat at 55 deg. C. destroys both nits and active lice within thirty minutes, even when protected by a covering of khaki cloth; while if the temperature is raised to 60 deg. C., fifteen minutes suffice. If any period during the process of washing or drying garments they are subjected to the temperatures and periods above given, chemical solutions are unnecessary; if, on the other hand, the garments are stepped in effective chemical solutions, then it is unnecessary to use temperatures so high as those mentioned during washing or drying.

In utilizing the results of the present experiments for practical disinfection it must be borne in mind that solutions of both cresol-soap emulsion and lysol degenerate in their effectiveness for the destruction of bacteria in relation to the organic matter with which they become charged during use, and it is probable that a somewhat similar fall in their effectiveness for the destruction of nits may occur. It has not been possible so far to ascertain if this probable drop in efficiency occurs, owing to our lack of knowledge of the exact condition of use. If samples of solutions actually employed could be forwarded to the Lister Institute, with the necessary data as to strength and the relations of quantity of fluid and period of use, and the number of garments treated, it would be possible to carry out the experiment necessary to obtain information on this point.

Pieces of army shirt flannel on which numerous nits have been laid were immersed in the solutions for the periods

shown in the accompanying tables; they were then taken out, and the superfluous fluid removed by placing on filter paper for a few minutes. After this they were placed in small entomological boxes lined with a strip of dry flannel, and carried in a thin cotton bag, suspended from the neck between skin and shirt, to incubate.

On examination of the tables it will be noted that the lysol (crude carbolic acid and soft soap emulsion) solutions are decidedly more effective than the cresol-soap emulsion solution at the higher temperature, but less so at 32 deg. F. An interesting feature of the series is the regular rise in the percentage of lice which die while hatching as the action of the solution becomes less fatal up to a mid-point, when it again declines to a minimum in proportion as the hatching ceases to be checked owing to the weakness of the solutions. It is a matter of question whether death during escape from the egg is due to the action of the fluids on the eggshell or to a want of robustness in the larvae.

The evidence as a whole seems to establish the fact that steeping for twenty minutes in a 2-per-cent solution, either lysol or the cresol soap, is quite effective provided the temperature is not below 50 deg. F.

The Influence of Menstruation on Acidosis in Diabetes Mellitus.—George A. Harrop, Jr., and Herman O. Mosen-thal of Johns Hopkins report a case. Menstruation has not been regarded as a factor which influences the course of diabetes mellitus appreciably. The history and the physical examination of this patient were as follows:

H. L., colored; aged, 18; schoolgirl. Admitted September 21, 1917. Discharged November 11, 1917. Died November 27, 1917.

Past History.—Essentially negative. Menstruation began at 15. The periods were regular, but often lasted for a week. They were accompanied by a good deal of dysmenorrhea. Her best weight before onset of the diabetes was 101 pounds.

Present illness.—The first definite symptom of diabetes was polyuria, which was noticed one year ago and has gradually become more marked, until now she voids every hour or two during the day and night. At about the same time she began to lose weight, and to feel drowsy and listless. She grew irritable and complained of pains in the legs, and later in the back. Her appetite has be-

come enormous and she has had excessive thirst. During the past few months her menses have become more irregular. The last period occurred about two weeks prior to her admission and lasted a week. During the last three or four days of menstruation, the mother states, the girl was very drowsy, she had no desire for food, she complained of abdominal pain, her breathing was deep, and the amount of urine voided during this time was much less than usual.

Physical Examination.—Height, 5 feet 1 1-2 inches. Weight, 72 1-2 pounds. A thin, undernourished colored girl. The pupils are equal and react to light. Marked pyorrhea alveolaris. Heart and lungs clear. Abdomen negative; liver and spleen not enlarged. Thyroid isthmus palpable, and contains a pea-sized nodule. Knee-jerks absent. There are no motor or sensory disturbances.

Blood Examination.—W. B. C., R. B. C., 5,200,000. Hemoglobin (Sahli), 78 per cent. Wassermann reaction negative. Blood sugar on admission, 0.148 per cent.

Throughout these studies the nitrogen was determined by the Kjeldahl method, the urinary ammonia by steel's modification of Folin's method, the urinary glucose of Benedict's modification of Folin's method, the urinary glucose of Benedict's modification of Fehling's solution, the acetone substance in the urine by Shaffer's procedure, the blood sugar by the method of Lewis and Benedict, the tension of carbon dioxide in the alveolar air according to Marriott, and the food values were calculated from the tables of Atwater and Bryant.

It is readily appreciated that this girl entered the hospital suffering from a very severe type of diabetes mellitus, accompanied by a marked degree of acidosis. The urine could be rendered sugar-free only temporarily by means of starvation; the acid substances in the urine were fairly high, the percentage of ammonia nitrogen of the total urinary nitrogen was well above the normal, and the carbon dioxide tension of the alveolar air was low, in spite of the large amounts of bicarbonate of soda administered. The patient was thin and weak, but exhibited none of the distressing subjective symptoms that are often associated with marked acidosis and impending diabetic coma. The gravity of the situation was realized, and every effort was made to improve the girl's condition. At the end of one month the acidosis had somewhat diminished, but the tolerance for carbohydrates had not increased at all. She was evi-

dently one of the rare but unfortunate cases of diabetes mellitus which are not relieved by the starvation treatment.

On the 28th of October, with the onset of the menstrual period, the picture changed completely. On that day she complained of abdominal pain and refused food. At 7 p. m. a change in the character of the breathing, with increasing drowsiness, was noticed, and at 10 p. m. there was well-marked hypernea; she could scarcely be aroused; there was marked involuntary twitching of the facial muscles, and the carbon dioxide tension of the alveolar air was 20 mm.

The next day the symptoms improved somewhat and by November 1 all the symptoms which had manifested themselves at the time of menstruation began had disappeared. The patient was treated with large doses of bicarbonate of soda by mouth, rectum, and intravenously, and by starvation. The effects of this therapy were satisfactory.

The tests during this period, which may be regarded as one of diabetic coma, show no appreciable increase in the severity of the acidosis over that of one month previously when there were no subjective symptoms of acidosis. There is perhaps a slight tendency toward a rise in the amount of acid substances and ammonia, but no significant change occurred.

The alveolar air showed a lower tension of carbon dioxide on the first day of menstruation than had previously been recorded, but here again the difference was only slight. It may, therefore, be concluded that the process of menstruation in some manner affected the body so that it was less resistant to the influences of the acid bodies and that diabetic coma resulted.

There are several other facts that point to the profound effects which were produced by the menstrual process. During the period the glycosuria and the quantity of nitrogen in the urine were both much increased. These phenomena have often been noted in so-called cases of acute diabetes. When menstruation had ceased, it was apparent that some permanent amounts of glucose excreted were somewhat higher than before, and the acidosis, as indicated by the acetonuria and the quantity of ammonia in the urine was distinctly more pronounced.

Letters received from the patient's mother and her physician would seem to show that during the two weeks after she left the hospital (November 11) her condition was thought to be unchanged.

She was permitted to be up and about and there was presumably very little restriction imposed upon her diet. On November 25 menstruation began. She was very drowsy and nauseated. Deep coma came on during the course of the day, and on the following day several general convulsions occurred. There was evidently typical air hunger. Death came about 36 hours after the onset of the diabetic coma, and on the third day following the beginning of the menstrual period.

In this case of diabetes mellitus it seems justified to conclude that the menstruation was accompanied by an increase in the acidosis. The symptoms became more marked with each successive period until fatal coma occurred. This is not a common sequence of events, but may be closely observed during the menstrual period.—*Johns Hopkins Hospital Bulletin.*

Surgical Treatment for the Cure of Chronic Suppurative Otitis Media in Childhood.—Horgan (*British Journal of Children's Diseases*,) states that if it be properly understood that the ultimate utility of the chronic suppurating ear of childhood will in a large measure depend upon the resultant disorganization of the conductive apparatus or middle ear, and that the disorganization will depend upon the length of time during which the disease has remained active, it will be readily seen that all efforts at treatment should aim not only at obtaining but still more in maintaining a dry ear.

It must be clearly borne in mind that ear disease of this type in children is in the vast majority of cases secondary to interference with the natural drainage and ventilation, or to continuous reinfection of the middle-ear space, and that any treatment which fails to ascertain and, if present, remove this exciting cause must ab initio fail to do more than bring about a very temporary amelioration of the disease. Hence it should be our invariable rule thoroughly to ascertain in the first instance the obstructive or infective agent in the child's nose, pharynx, or mouth, and to effect its removal.

Adenoids, if present in any amount, should be removed. In this respect it is necessary to remember that the disposition and condition of any adenoid mass present are of more importance than its size. A small but septic adenoid mass—aptly compared by Laurens to a septic sponge—when situated anywhere in the nasopharynx, but more especially in the

neighborhood of Rosenmüller's fossae, is a very potent factor in the continual reinfection of the Eustachian tube and middle ear, even though its presence may in no sense interfere with respiration. A failure to diagnose the presence and effect the removal of such small septic foci is a frequent cause of the interrupted continuation of the ear discharge.

If any hypertrophied conditions of the inferior turbinals have been confirmed at the original examination they require reduction, which, if necessary, should constitute the first step of any operation undertaken for the removal of tonsils or adenoids or both. Further, if the child's nose be markedly obstructed on the affected side by a septal spine or deflection, the writer has no hesitation in partially resecting this structure by the submucous method.

The removal of the tonsils is highly desirable in 95 per cent of suppurative ear cases, and it is worthy of mention that the actual size of a child's tonsil is often very difficult to ascertain without palpation, which can, of course, be carried out on the table:

The removal of the adenoids, though for obvious reasons reserved until the end, is nevertheless the most important of all surgical measures undertaken for the cure of chronic suppurative ear diseases in children. It is, unfortunately, performed in a haphazard, not to say dangerous, fashion.

The nose, mouth, and pharynx having been rendered as healthy as possible, our attention should then be directed toward the actual conditions prevailing in the middle ear. Polypi, if present, should be removed, and granulations cauterized with chromic or trichloroacetic acid.

As regards local treatment, the instillation of warm drops of equal parts of hydrogen peroxide and 70-per-cent alcohol has given the author the best results. The mother should be directed to instill the drops lukewarm, allow them to remain in the ear two or three minutes, dry them out with cottonwool whilst tilting the head to the affected side, and then to repeat the whole procedure a second or even a third time, immediately. Syringing with a warm alkaline or saline solution is called for its discharge if the discharge is profuse of fetid, conditions which will usually rapidly disappear under treatment. The intervals at which it is required will thus tend to increase from the inception of treatment. Cotton-wool should not be worn in the ear in the absence of profuse discharge, as the drying

and healing properties of air and light are of great importance in curing these anaerobic infections. If the ear still fails to respond to treatment, a cure may, in many cases, be obtained by curetting of the isthmus and external end of the Eustachian tube as described by Yankauer.

Finally, in a very small proportion of cases, such as those of scarlatinal or tuberculous origin or in which cholesteatomatous changes are present, an ossiculectomy, or eventually a radical mastoid operation, is called for.

The radical mastoid operation is still performed on children much more frequently than it is necessary, and this is due to a failure to understand and remove the underlying causes of the infective and obstructive process.

All who have performed it in any number of cases have experienced the ear that refuses to dry after operation because of a persistently unhealthy Eustachian orifice and tube. In these cases the radical mastoid operation should, in all probability, never have been performed.

In conclusion, it may not be out of place to repeat that, inasmuch as prevention is better than cure, it should be remembered that in all cases chronic suppurative ear disease starts as an acute infective process, which, as Woods has so well pointed out and proved in his own practice, may be readily cured with a minimum of injury to the special organ concerned in the space of a few weeks or less by simply treating the primary ear lesion on the same principles of aseptic surgery that are applied to other parts of the body, and thereby insuring that an infection which in the first instance is due to a single microorganism may not by external contamination rapidly become a multiple one.

When it is duly recognized in practice as well as the theory that the chronic suppurating ear of childhood is, in most cases, a direct sequence to the inefficient or faulty treatment of a simple acute middle-ear inflammation, and children are no longer discharged from fever hospitals with their ear lesions still unhealed, then, and only then, will the great number of these cases visiting every ear clinic show any sign of diminishing.

Broken Sleep.—Rankin, in *The British Medical Journal*, comments on the widespread prevalence of sleeplessness since the outbreak of the war. The nervous system of the man breaks under the terrible strain, while the wife or mother at home is worn out by constant mental

anxiety. Then there are those who have inherited a gouty diathesis and who are of the neurasthenic type, who find after middle life that their sleep is broken between 2 a. m. and 4 a. m. by a sensitive of gastric discomfort. Air raids and other disturbances are also factors which interfere with the normal night's rest. Rankin suggests that the remedy for insomnia in many cases may be found in attention to the details of routine habits and abstention from serious work after dinner. A tablespoon of paraffin before breakfast will lubricate the intestine and keep the bowels in order, and once or twice every week 1 grain of calomel with 1-3 grain of extract of colchicum made into a pill with 3 grains of rhubarb or colocynth will provide for hepatic efficiency. A mild aperient water may also be used. To prevent gastrointestinal fermentation, he suggests periodical courses of about two weeks of 3 grains each of charcoal, betanaphthol, ox gall, guaiacum, taken in capsule form forenoon and afternoon. The evening meal should be light and meat and tea taken only once a day; a glass of some light wine may promote indigestion, and an ounce of brandy in hot milk, arrowroot, or Genger's Food may be useful as a nightcap. Whenever possible of course, drugs should be done without, but suitable drugs, wisely chosen, should be given if necessary. Bromides should be administered in full doses of 30 grains and are more efficient if combined with small doses—ten grains—of chloral hydrate. The influence of this drug upon the cardiac Rankin believes to have been grossly exaggerated. If this combination fails, bromidia in dram doses, chloralamide in 30-grain doses, or chloralose in 6-grain doses may be tried. Other alternatives are: Medinal, 7 grains; trional, 15 grains; sulphonal, 20 grains; adalin, 10 grains; chloretone, 15 grains; or bromural, 10 grains. Paraldehyde is valuable in case where there is mental excitement and extreme restlessness. One-quarter grain of morphine with 1-100 grain of atropine, administered hypodermically, is indicated in cases where pain contributes to the sleepless nights. Rankin points out that the abuse of morphine is no argument against its legitimate use; it will bring relief when other remedies are of no avail and should not be withheld because of the possible creation of a drug habit. Whatever hypnotic is chosen, the best results are obtained by giving it three or four nights in succession rather than leaving it to the patient's judgment to take as he pleases.

It often happens that better results are obtained by the administration of two or more hypnotics instead of any one by itself, and Rankin mentions the following: 15 grains trional with 1-3 grain of codeia; 20 grains chloralmid with 30 grains potassium bromide; 10 grains aspirin with 7 grains Dover's powder; 10 grains bromural with 1-6 grain morphine; 5 grains zinc valerianate with 1/8 grain heroin. He adds that in cases of persistent high-tension pulse dependant upon sclerotic changes in the arteries, nitroglycerine is of inestimable value. A tabloid containing 1 minim of a per cent. solution of the drug should be put into the cheek the last thing at night and left there to melt gradually. It prevents increase of tension during sleep and may be repeated should the patient awake during the morning hours. Electricity may be useful, but its effects are uncertain. Hypnotism Rankin considers a doubtful experimental remedy, which may be of some value in carefully selected cases. He adds that it is well to recognize the value of philosophy as a hypnotic.

Radium in Uterine Hemorrhage.—

Miller (Surg., Gynec. and Obst), is limited to bleeding due to metropathies, disturbed ovarian function, chronic endometritis, metritis and fibroids of the uterus. Bleeding associated with syphilis, chronic liver and heart disease, lung and kidney affections, as well as the ordinary pregnancy, is naturally eliminated and mentioned to emphasize the point that uterine bleeding is only a symptom and demands careful differentiation and accurate diagnosis in its management. Every gynecologist is impressed with the large number of cases of persistent bleeding that eventually require hysterectomy. If he is conscientious he can only regret keenly the necessity of performing a serious mutilating operation, especially when the pathologist reports little if any pathological change in the uterus. Radium has proved to be the long-sought specific in these cases, because of the simplicity of application, the short amount of time required to effect a cure and the uniformly satisfactory results obtained. The most plausible explanation of the action of radium in these cases is that it produces extensive structural changes in the endometrium. The author has had considerable experience along these lines and for the purpose of study has divided his cases into groups. The first group includes the cases commonly denoted as myopathia hemorrhagica (hemorrhage

of the menopause). These cases, as a rule, present little if any defined anatomical cause to account for the bleeding and comprise some of the most serious instances of acute hemorrhage. It occurs most commonly in women approaching the menopause, though it may be found in comparatively young women. The uterus may be normal in size or slightly enlarged, and often presents a normal endometrium. The bleeding is supposed to be due to a disproportion of connective tissue over muscular tissue in the myometrium or to some aberration of ovarian secretion or other ductless glands. In these cases the bleeding was controlled primarily in 100 per cent., with 90 per cent. of permanent results. The average time from the treatment until amenorrhea occurred was four weeks. The second group included patients presenting a history of menorrhagia or metrorrhagia, lasting for months or years, practically all of whom had a uniformly enlarged, hard or occasionally flabby, uterus. Many gave a history of puerperal complications. In some, the origin of the trouble appeared to be extensive lacerations of the cervix, involving the parametrium. These cases are ordinarily classified as chronic metritis, polypoid endometritis, hyperplasia, fibrosis, etc. Amenorrhea was produced in every case within one month after treatment, and all but two of the eighteen cases have recently been communicated with and none report a return of the bleeding. Many presented an enlarged uterus before the treatment, but every one examined three months or longer after the treatment showed a uterus approximately normal in size. The menopausal symptoms seemed to be more pronounced in this group than in any of the other series. The group of myomata comprises 26 cases, and in 22 cases the bleeding ceased within five weeks and has never returned. In 5 cases it was controlled for a few months, but was never so severe after its reappearance, while in 2 of these the menses became regular after eight months. In only 2 cases has the radium failed, and these would very probably have been relieved by another radiation. Control of bleeding is not the only desideratum in treating fibroid tumors; the growth of the tumor must be stopped and, if possible, the tumor be made to disappear. In 16 cases examined from three months to two and a half years after treatment there has been a reduction in the size of the tumor varying from complete disappearance in 3 cases to

about one-half the original size in practically 50 per cent. of the number. Some further points in regard to the fibroid group are worthy of comment, namely, most of the growths selected for radium treatment were small, the only large tumors being those presenting contra-indications to operation. This feature is emphasized because Miller does not wish to imply that radium is to supplant surgery in the treatment of fibroids, but it is a most valuable adjunct to surgery. Two cases in this series illustrate conclusively that radium is more effective than the roentgen rays. Both had been given twenty exposures by an experienced roentgenologist, who employed the Gauss technic, with only temporary results. Only one intra-uterine application of radium sufficed to stop the bleeding permanently. In a fourth group the author records 2 cases of serious uterine bleeding in young girls who had been treated by rest, tonics, astringents, ovarian extract and curettage. The uterine scrapings apparently showed hyperplastic glandular endometritis. The application of small doses of radium produced results that were all that could be desired, even though the risk of permanent amenorrhea was greater than should be taken in the ordinary case of this type. Both of these cases now menstruate regularly after a period of amenorrhea which lasted three months. While the results obtained by various authorities with the use of radium are practically the same, the dosage employed has been by no means standardized. It has been practically established that a 1,000-milligram-hour exposure is almost certain to produce permanent cessation of the menses, but in the treatment of fibroids the size of the growth and the degree of hemorrhage should govern the amount used and the duration of the exposures. If the only annoyance a woman experiences who suffers from a fibroid is bleeding, is there sufficient justification for performing hysterectomy? To this question the author answers in the negative. If the growth is sufficiently large to produce pressure symptoms, operation is preferable because of the time consumed in reducing it by radium. If evidence of infection or degeneration exists or the appendages are diseased, operation is the best procedure. If the woman is young she should be advised to submit to operation with the idea of performing myomectomy and preserving the uterus. For small and medium-sized growths and those presenting contra-indications to

operation, radium is the ideal remedial agent. Submucous growths should be treated surgically unless contra-indications to operation are present, owing to the tendency of this type to become infected or develop other degenerative changes.

Heart Reserve in Military Training.—

Alfred Johnson says that in the medical examination of recruits for the army to designate their category, and later in noting their general fitness or otherwise as a result of training, the condition of the heart often proves to be the final index of the man's capabilities for military service. Defects such as impaired functions of the limbs, hernia, chest, kidney, and nervous troubles, etc., are usually estimated at their true value, because of the comparative ease of accurately investigating their condition of activity.

It is not wished any way to minimize the importance of careful observation by inspection, palpation, percussion, and auscultation of the organ, noting the condition of the blood vessels, and from these data forming an estimate of the condition of the heart. What it is wished to emphasize is, that the estimate found by these methods applied in a room, when the patient is practically at rest, is often a source of serious error in predicting the man's capacity for military training.

Too much importance seems to be attached to the presence or absence of valvular troubles, or murmurs, and too little to what actual capabilities of the heart may be, and the amount of reserve that it can draw upon for military training.

The present methods of army examination, unfortunately, often place men in a category in which they prove quite unable to stand the strain of training and the duties of that category, on account of insufficient heart reserve, and they are passed from hospital to duty and duty to hospital until they are finally discharged from the army. This involves a useless expenditure, which might be better employed under these conditions.

These men with insufficient heart reserve might be much better employed in civil life, where experience has taught them the limitations of their strength. If, however, heart reserve was taken into account in the process of training, and this reserve never overdrawn upon, very many of these men might be turned into effective soldiers instead of being broken down by an arbitrary system of hardening.

If the gauge of heart reserve held the important position it deserves, many men with ample heart reserve might be placed in a higher category than the one they occupy, with the certain knowledge that they would be able to stand the training of that category.

What is required is some fairly reliable method of checking the findings of examination of the heart under restful conditions, by ascertaining its capabilities under strain and load. The heart is the most nearly mechanical of the vital organs. It is obvious that it would not be a reliable test to judge the capabilities of a motor engine when it is just ticking over with a minimum load: it must be tested under varying conditions of load and strain to find a correct estimate of its capabilities. So with the heart: the measurement of the soldier's heart reserve under varying conditions of load and strain would do much to make our army more effective. Over-training is more disastrous than under-training. The amount of training that can be undertaken with progressive benefit depends on the state of the myocardium. It must be a correct balance between the *vis a tergo* and *vis a fronte*.

In carrying out a scheme for finding the limitations of the heart reserve, standard and varying physical strains would be necessary for the test. Marching progressive distances, parades, physical exercise to pick out the weaklings and, for those who showed ability for severe strains, doubling on the level and uphill.

An old but reliable test might be applied: that of the taking pulse-rate before the test, allowing five minutes to elapse, or for the more severe strains five minutes after the test, and then timing the pulse-rate again. If, after comparing the results, it is found that the pulse-rate is accelerated, this man is doing too much; repetition will only lead to further dilatation of his heart, and he should be put to training involving less strain.

The test for any but those who have managed the severest tests should be applied at intervals of from one week to one month, according to the requirements of the case. Thus, each would be trained according to his capabilities, and there would be no opportunity of deceit or fraud on the part of the man under observation.

A method such as this would not throw much extra work on the medical department, but would rather turn their energies from dealing with men broken with

bad training to prevention of crowding the hospitals and the overlasting "Attend B." (or no duty). Medical orderlies could easily be instructed in timing the pulse accurately, and referring those who failed in physical test to the medical officer.

In connection with heart reserve, the differential stethoscope of Dr. O. Leyton is of the utmost value in determining the amount of heart reserve where there are no adventitious heart-sounds or valvular trouble. This stethoscope enables the examiner to measure the sound values, and indicates a want of heart reserve when the first sound at the apex is approximately less than double the second sound at the base. In this way the ratio between driving force and resistance and the condition of the myocardium may be gauged.—The London Practitioner.

Liquid-Tight Closure in the Treatment of Wounds.—Taylor and Taylor, in The London Lancet, describe an improved apparatus by which they may render a wound air-tight during irrigation and so dependably water-tight that any desired degree of positive or negative pressure may be employed. This end is attained by means of an ingeniously constructed rubber cover, which fits close to the skin surface around the wound. This cover is bandaged in place, and by means of an irrigator flask the fluid is allowed to run in the top of the cup through an inflow tube, there also being an outflow tube which is clamped. When no more fluid will run in, the inflow is clamped and the outflow released. A positive pressure is advised from 6 to 12 inches as measured by the height of the liquid. Negative pressure is about the height of the bed. The results they record as follows:

Certain phenomena have been observed to follow so constantly the employment of this method of irrigation that the authors are able now to predict their appearance. Though their investigations as yet have been largely confined to stubborn old sinuses, and not to recent wounds, this form of irrigation has on many occasions been instituted at the time of an acute flare-up. They have not, it is true, an imposing array of cases as regards number, but their results have been of a very positive nature. They state that they do not propose to weary their readers with individual instances, but shall wait until their series is compiled for presentation in tabulated form. The

results which they have observed may be epitomized as follows

1. Rapid softening of indurated tissues and return to normal color.

2. Disappearance, often within twenty-four hours, of swelling.

3. Profuse discharge of pus for first twelve hours, and rapid diminution afterwards, the secretion becoming seropurulent, then lymphoid in character.

4. On an average, in chronic cases, the wound is cleansed of pus in thirty-six hours—i. e., pus is removed as soon as formed.

5. Granulations become bright in color and bleed more readily. After four or five days if the device be removed an old chronic sinus usually fills up with lymph and blood.

6. The almost instant relief from boring pain which may have worried the patient for months.

The improvement in general health and morale of patient incident to these local changes is often remarkable.

The authors thus summarize their views regarding this treatment:

Penetration of fluid to, and tidal evacuation of, distant loculi, resulting in thorough mechanical cleansing of wound cavity.

Establishment during negative pressure of outward flow of lymph with, presumably, its quota of bacteria.

Avoidance of large mutilating incisions that are required for evacuation of deep pockets and the insertion of fluid-conduct tubes.

The concentration of antiseptic or hypertonic fluid remains constant, since the freedom of its delivery into the wound being unrestricted, the solution can be frequently renewed.

The ease with which the beneficial effects of heat in interior of wound may be secured.

Elimination to a large extent of the personal equation.

Insurance of dry beds and sense of comfort to patient, who is enabled in many instances to be out of bed whilst undergoing treatment.

Economy in time, effort, and material. Presumed adaptability of its use to dressing stations and ambulance trains.

Diphtherial Infection of Wounds.—A good illustration of the great complexity of questions bacteriologists may be called upon to answer is afforded by a recent inquiry carried out for the Canadian Army Medical Corps with respect to the presence of diphtheria and diphtheriod

bacilli in open wounds. The inquiry was rendered necessary by the publication last September of a report by Majors Fitzgerald and Robertson, to the effect that out of 67 cases of open wounds in men returned from the Canadian Expeditionary Force examined in a particular division between May 20th and June 7th, 1917, no fewer than 40 afforded cultures of the diphtheria bacillus. The significance of the observation was somewhat discounted by the discovery that a nurse whose duty it was to dress the suppurating amputation cases had a slight wound of the index finger which yielded cultures of *B. diphtheriae*; she could not, however, be held entirely responsible for the outbreak because other instances of infected wounds occurred in soldiers who had returned to Canada after the nurse had been taken off duty. In two or three cases the infection was discovered in men immediately on their arrival in Toronto from overseas. Characteristic membrane formation occurred in certain of the cases, and in some the virulence of the bacilli isolated in cultivation was proved by inoculation.

The fact that some of the cases afforded cultures of the diphtheria bacillus immediately upon arrival in Toronto made it essential to institute an inquiry in England to determine the frequency of the presence of *B. diphtheriae*, and incidentally of allied diphtheriods, in the wounds of patients in Canadian military hospitals. The inquiry was very laborious, but the result was reassuring. Only in four out of 306 cases examined were bacilli isolated having cultured characteristics of a true diphtheria bacillus, and of these four only two were virulent. On the other hand, in a considerable number of cases diphtheriod bacilli were isolated—that is to say, bacilli which morphologically resembled the true diphtheria bacillus.

As long ago as 1888 attention was drawn to the fact that a Gram-positive bacillus which might easily be mistaken for the true diphtheria bacillus was frequently present in the throat and mouth. This was at first assumed to be an attenuated strain of the virulent germ, but when more refined bacteriological tests were brought into use in which the power of bacilli to ferment sugars was tested, it was established that this non-virulent bacillus was quite distinct from the true virulent bacillus, and it received the name *B. hofmanni*. Later on many other bacilli resembling the true diphtheria

bacillus were found, and at least six groups of them distinguished. Morphologically, and in the early stages culturally, diphtheroid bacilli from wounds are many of them indistinguishable from *B. diphtheriae*, and in some instances they have the same power to ferment sugars, so that it is not justifiable to make a diagnosis of diphtherial infection of wounds either from smears alone or from stained preparations and cultural characteristics. The demonstration that the bacilli produce toxins—ectotoxins—which can only be effected by observing the result of inoculation of broth culture, is alone capable of proving the presence of infection by the true virulent *B. diphtheriae*. There is a certain amount of evidence that particular species of diphtheroid bacilli characterize particular hospitals, but none that the diphtherial infection of wounds is otherwise than uncommon among the wounded.—British Medical Journal.

Malaria in the Army.—Williams (Canadian Medical Association Journal), says that while the question as to the absolute cure of malaria by the administration of quinine, arsenic, and other drugs is still unsettled, one thing is certain, viz., to prevent a recurrence of the malarial symptoms of a patient a systematic prolonged course of treatment is necessary. The form of quinine best suited to combat the disease, the length of the period over which the treatment shall be continued, the procedure adopted for the carrying out of the treatment are matters worthy of consideration. Quinine has long been recognized as the one drug which acts most favorably upon the plasmodium of malaria. The value of the drug is enhanced by the addition of arsenic in the majority of cases. The tablet or powder form has not proven as efficacious as the solution with sulphuric acid. The sulphate of quinine in the acid solution is the most commonly employed form for administration by mouth. However, in some cases where the desired effect is not obtained the hydrochloride or the bihydrochloride in solution has been given with better results. The dose of the sulphate is from 20 to 30 grains daily, of the hydrochloride or bihydrochloride 7 to 15 grains. The intramuscular method has met with better results, on the whole, than that by the mouth. Still abscess formation at the site of injury is not uncommon, and thus this method does not meet with general favor. The bihydrochloride is used, the

dose being from 5 to 10 grains. The intravenous method is without doubt the most efficient one when ordinary care and skill are employed, and is practically devoid of danger. The action of the drug is much more rapid and the amelioration of the symptoms more marked than in the other forms of administration. Five to seven grains are given in 200 to 300 c. c. of physiological saline solution, once or twice a day. In severe cases 30 grains may be given in twenty-four hours. In malignant cases and especially those of the cerebral type, this is the only form of administration which seems to produce any appreciable effect. The administration of arsenic in addition to quinine is advisable in practically all cases. The length of period over which the drug should be administered is estimated differently by different authorities, some advising a daily use for three months, others intermittent dosage over a period of from 12 to 18 months. In the experience with the troops in the East for two malarial seasons, the recurrence of attacks during the second summer in those who had suffered from malaria during the first season was so common that in the opinion of Williams the twelve months' period of treatment seems to be the minimum.

The Pneumogastric Symptom.—Dubbard (Journal de Medecine et de Chirurgie,) on the basis of an extensive operation experience, describes what he calls the pneumogastric sign due to a neuritis of the vagus of pulmonary origin, extending its influence to the gastro-intestinal distribution of this nerve and causing trophic troubles which predispose to the development of ulcers and other inflammatory lesions of the digestive tract. He notes that 80 per cent of his gastric ulcer cases were instances of patients who had in former times suffered from pulmonary tuberculosis. In 45 per cent of his gastroduodenal ulcers he removed the appendices in 18. In the remaining cases the operation was done because of cancer or as a complement to infection upon the biliary passages. Indeed, he has learned by experience that it is not wise if the patient's condition permits to do a cholecystostomy, a cholecystectomy, or a gastroenterostomy. Thus he asserts the danger of postoperative spasm of the pylorus is done away with. Inflammation of the pneumogastric nerve causes not only dyspepsia, asthma, and palpitations, but also dystrophies, and in one autopsy the pneumo-

gastric presented the lesions of both a perineuritis and a degenerative of the nerve fibers. This was an old tuberculous case whose gastric ulcer perforated. He ultimately died from chronic appendicitis and subphrenic abscess. The author considers that the facility with which it is detected, should be placed beside other signs upon which the diagnosis of tuberculous is based.

A Study of Projectiles Buried in the Mediastinum.—Le Fort (Rev. de Chir., l'aris), after extensive study of mediastinal wounds with an arrested projectile has been brought to a close by the detailed case reports of 37 observations on which it is founded. Many of the cases are illustrated. These cases only include those in which a projectile is embedded in the mediastinal region without any persistent fistula, and were observed and followed in the base or interior hospitals.

The study includes the following chapters: (1) pathologic anatomy; (2) nature of the lesion; (3) symptomatology; (4) evolution of the injury; (5) treatment; (6) technique of operative procedures; (a) by anterior routes; transpleural, extrapleural, or transcostal; (b) by posterior routes; transpleural or extrapleural; (7) results, including the postoperative course.

In concluding and summarizing his study Le Fort says that the prognosis in regard to projectiles left in the mediastinum is not definitely fixed. The pathological findings suggest that certain projectiles can be left for a long period, if not permanently without causing death. Severe complications are on the whole rare. However, the majority of the wounded with a mediastinal projectile have periods of pain, especially dyspnoea on effort, which render them unfitted for work.

Up to the present, operative intervention has rather been avoided on account of its apparent gravity. The newer ideas regarding the search for and localization of mediastinal projectiles, the normal and pathologic physiology of the region, the surgical methods applicable, and their results show operation to be effective and relatively benign.

The extraction of large foreign bodies, either dangerous or badly tolerated, should only be undertaken by an experienced surgeon having at his disposal all the means necessary to bring one of the most delicate surgical operations to a successful issue. Any operation on the mediastinum ought to be preceded by a

very complete radiologic examination made by the surgeon and radiologist acting in collaboration. This radiologic examination will give a number of showings which are more important in this than in any other part of the body. There is no possibility however of an exact mathematical location of the projectile in such a region where it is essentially mobile; nor will a radiologic examination always give a very precise anatomical localization. As a consequence the surgeon before attempting extraction should have at his disposal all useful means of research for a projectile such as intermittent screen control, the electrovibrator, compass apparatus, etc. For the same reason, and especially because the mediastinum is a dangerous region, difficult and dark routes of approach ought to be avoided, except in cases of minor mediastinal surgery and for projectiles that are not embedded very deeply or are easily reached. Mediastinal surgery must be a surgery with large openings and full light.

The extrapleural, transternal, cervical (with or without resection of the clavicle), the trans- or extrapleural posterior routes all have particular and limited indications in mediastinal surgery. The necessity of having plenty of light gives to the wide transpleural routes a considerable superiority over the extrapleural or the restricted transpleural routes. The anterior or anterolateral transpleural route gives a very direct access even to the posterior mediastinum, much easier and much more commodious than the posterior or posterolateral route.

The method of choice ought to fulfill the following conditions: (1) it must give a very large opening which is easily enlarged in case of need; (2) it must give as direct an approach as possible to the mediastinum; (3) when the operation is terminated, it must permit the integral repair of the wall.

A costal flap hinged externally and intercostal incision with the section of one, two, or even three costal cartilages responds excellently to these three conditions. This is the operation of choice for all deep-seated mediastinal projectiles or those difficultly situated between the planes of the diaphragm and clavicle.

In 34 operations for the extraction of mediastinal projections, the foreign body was found in all and extracted in 32 cases. These were cases in which the projectile was in the mediastinum itself.

Serious operative complications are rare; haemorrhage, which is most to be

feared, has never been alarming, and is easily checked by tamponade.

The results of the 34 operations were 32 recoveries and 2 deaths. One of the deaths was in a case where the projectile was extracted from the cavity of the left auricle. This should not legitimately be included in this series; omitting it, the deaths were one in 33 cases.

Prudent dissection of the organs in the mediastinum does not give any cause for grave prognosis. The dangerous region is that of the pulmonary pedicle. In paramediastinal operations the author has had three deaths after operations for the extraction of a projectile situated in the pedicle.

As regards the end-results in all patients operated upon by the hinged costal flap method, fixity of the flap has been rigorously obtained. From the point of view of solidity of the thoracic wall the hinged costal flap gives very superior results to those obtained in complete costal resection, even if limited. As far as the author has been able to judge, the general end-results have been excellent; but it is too early to formulate any definite opinion. All that can be said with certainty is that those patients who have undergone the extraction of a foreign body situated in the mediastinum have declared themselves to be completely satisfied with the results; their physical, moral, and general condition has been transformed after the operation; and the majority of their disabilities have either disappeared or been greatly relieved.

Mentally Deficient Recruits for the Army Service.—Withrow (Canadian Public Health Journal) writes concerning mentally deficient recruits, as follows: The problem of the unfit is of more concern in army circles than in the civilian community. War is a hard taskmaster, and is insatiable in its demands. It cannot brook physical disability; it must have the best. Moral disability is no bar to entrance into the ranks; all war asks is a sufficient morale in its gregarious fighting humanity. The question of mental disability is both important and difficult of solution. It presents grave difficulties because of the lack of time to institute a proper examination of mental capacity. The idiot and the low-grade imbecile present no real problem. The brand they wear is deep enough and plain enough for a real decision at a casual glance; but the high-grade imbecile and the moron with the victim of a psychosis are often passed through training. It is

not surprising that this should be, for they have sufficient intelligence to answer all necessary questions and the elucidation of their malady would require a different line of tactics by the medical officer. In the early days of the war men were so eager for acceptance that they hid their disabilities if possible. Now recruits are so eager to recount their numerous maladies that it is surprising that one small human body can carry such a conglomeration of complaints. This refers more especially to the physical. The mental problem is the same now as then. The men themselves do not know their disability and even their friends are loath to admit the possibility of any such blight as mental deficiency or insanity. Thus the medical officer, having little to guide him, oftentimes stumbles and falls upon a very rocky road. For there is no shadow of doubt that mental defectives give great concern to a medical officer of a unit so soon as they have donned their uniform. Every fellow may look alike in khaki, but every man does not act like his comrade, any more than do the units in civilian life. Defective mentality shows itself early or late. The greater the deficiency the sooner the discovery. One mental defective in a platoon may cause more anxious thought than all the rest of the men, while physically he is so fit that the mess hour is hardly sufficient to satisfy the call of an abnormally healthy appetite. This class of man is not understood and numerous crimes stand to their discredit, while punishment has no efficacy whatever as a corrective. If these men were properly understood they might prove fairly useful servants at certain duties, but the gain therefrom is offset by the loss of such valuable time and money that it is better to shut the entrance gates to them, or if, perchance, an odd one slips through discerning medical boards to have his name deleted from the roll as speedily as his symptoms become manifest. Withrow believes it would be good policy to have a board of two competent psychiatrists at the center of every military district, to whom suspected cases of mental deficiency and psychoses be referred. It takes time to make a diagnosis and the importance of a diagnosis is threefold. 1. It is not fair to the recruit to stigmatize him as a mental case if he is not such a one. 2. It is not fair to the fighting forces at this time to keep out of service one possible addition to the ranks because he may inadvertently have been labeled mentally deficient. 3. It is not fair to the government nor is

it good business to carry one single mental defective on the rolls of the forces one moment longer than is necessary for a proper diagnosis. It appears to Withrow that the parties concerned might be fairly dealt with. Many loyal and devoted persons have expressed their conviction that it seems a great pity to send all the physically fit to fight our battles with the prospect of death or disfigurement, while those of lesser physical attainments are left at home. It seems a great hardship that we leave behind the mentally defective while those of brighter intellect march off to do exploits. But what will you? War is war, and it takes the keenest and the bravest to stand the rigors of a campaign and one deficient intelligence may cause a cataclysm of disaster in the very hour of expected triumph.

Combined Rupture and Inversion of the Uterus.—Brindeau (Arch. Mens. d'obst. et de Gynec.) reports the case of a patient, a woman aged thirty-two years, a para-VII. The first five labors were normal, the sixth difficult with instrumental delivery. At the end of the seventh pregnancy there was a spontaneous rupture of the uterus. An immediate laparotomy was done. The foetus was found among the loops of small intestine, and was easily extracted. The placenta herniated outside the wound and the uterus was inverted. Hysterectomy was done.

On examining the removed uterus, it was found to be completely inverted above the tear so that the internal surface became the external and the peritoneal face was internal. The tubes and round ligaments had penetrated through the rupture and become internal. The uterine rupture was on the left ledge nearer the posterior than the anterior face. Microscopic examination of the tear showed that it was in cicatricial tissue in the midst of which there was some necrosed muscle fibers. Further examination showed obliteration of the internal orifice of the cervix. The woman made a complete recovery.

The history of a previous difficult labor with a probable rupture of the lower segments accounts for the rupture occurring in cicatricial tissue. This tissue was only about 1 mm. thick, and the distention and first contractions of labor were sufficient to cause rupture.

It is not so easy to explain the obliteration of the internal os. It is difficult to say whether or not the obliteration was complete. How did fecundation occur? The author thinks it possible: (1) that

the cicatrization may have continued during pregnancy and that the internal orifice may have been engulfed in the process; or (2) that obliteration was apparent only and that the tissues of the inferior segment in time obliterated the lumen of the cervix in the superior part. In any case it seems that there was a pathological process beginning before fecundation and continuing during pregnancy. The woman probably became pregnant before the cicatrization of the old scar was complete.

The placenta was inserted about 2 cm. above the tear where the uterine wall was very thin. All the portion of the uterus above the tear was inverted. The author traces the inversion originally to uterine inertia which was very marked in this case.

Skin Grafting in the Treatment of War Burns.—Wakeley, in The London Lancet, says that contractions with deformity are very distressing late complications of burns and occur whenever the whole thickness of the skin is destroyed. He has used ambrine for over a year for burns of all degrees and has seen no marked improvement in healing properties or final results.

In extensive burns of the extremities Thiersch's method should be employed. The granulations must be clean and the area to be grafted must be entirely free from excessive granulations and as dry as possible. When the operation of skin grafting is completed, a wire cage is placed in sunshine as much as possible. Heliotherapy is especially valuable after skin grafting, for the rays of the sun stimulate the tissues and encourage absorption of pathologic exudates, especially scar tissue.

In some cases, particularly burns involving the face or neck, Thiersch grafts are apt to become overwhelmed by surrounding granulations and here Reverdin's method should be borne in mind, either as an alternative to incomplete success by Thiersch grafts or as a primary method of skin grafting.

In cases where the palm of the hand has been badly burnt and contractions are about to occur, Wolfe's method is the most suitable, the whole thickness of the skin being used as a graft, and secured to the raw area on the palm by interrupted sutures.

For all fourth degree burns of the extensor surfaces of the hands and wrists, where much contracture has developed or will take place, the plastic method of

a flap from the abdomen should be employed.

The minimum amount of scar tissue is conducive to the best and most satisfactory results. To prevent scar tissue formation, it is the duty of the surgeon to consider skin grafting.

The Conditions Under Which the Sterilization of Wounds by Physiological Agency Can Be Obtained.—Wright and Fleming, in *The London Lancet*, state that after extensive experimental and bacteriological work, they have drawn the following conclusions:

1. It has been erroneously inculcated that every wound should be sterilized before closure; and that therefore primary suture should be avoided and secondary suture undertaken only after a course of antiseptics. There is now no question, with respect to primary suture, that the wound taken after early surgical cleansing and resection is as good as sterile, and with respect to secondary suture, undertaken with a wound condition and a purely saprophytic infection, that such an operative procedure, provided it leaves behind no infected dead spaces, directly contributes to sterilization.

2. It has been taught that one should judge of the fitness of the wound for closure by necropycultures and direct microscopic examination of the pus. It would be infinitely more reasonable to base one's judgment upon the results of biopyocultures.

3. It has been taught that suture cannot be successful in a wound containing a haemolytic streptococcus pyogenes. It has been seen that leucocytes can, given proper conditions, successfully combat this, and of course all other streptococci; and that these conditions can be realized in connection with the suture of wounds.

4. It has been taught that for the removal of sloughs from focal wounds chemical solvents are required. They have learned that sloughs can be removed by tryptic ferment set free from disintegrated leucocytes, and that the liberation of this ferment can be greatly accelerated by breaking down the leucocytes in the discharges with hypertonic saline solution.

5. Lastly, it has been taught in connection with antiseptics that sterilization is obtainable only by continuous or very frequently repeated applications. They have learned that there is nothing to prevent any part of a wound surface which has been washed quite clear of albumin-

ous matter being sterilized by a single application of antiseptics.

The Reducing Body in the Cerebrospinal fluid.—The presence of the normal reducing agent (glucose) in the cerebrospinal fluid has been used as a distinguishing meningism from meningitis, in which this body is diminished or absent. Weil has investigated the glucose content of the cerebrospinal fluid in various conditions. In irritation of the meninges and the resulting congestion the amount of glucose in the cerebrospinal fluid is increased, and this holds good in meningism. But when the cause of the irritation is microbic, the fermentation action of the microorganisms reduces the amount of the glucose; this is specially seen in meningococcic meningitis. In tuberculous meningitis diminution in glucose content is the rule; but in some instances the microbic activity is not sufficient to overbalance the influence of meningeal congestion, and at some stages of the disease the glucose content may be almost normal. In syphilitic meningitis the glucose content of the cerebrospinal fluid is excessive, and in explanation it may be suggested either that the *spirochaeta pallida* does not ferment the glucose or that the meningeal reactions of syphilis are aseptic and secondary to infective processes in the medulla or brain.

In the early stage of cerebrospinal fever, when the fluid is clear and shows a number of mononuclear cells, there may be a preliminary excess of glucose; later this disappears, but as the patient recovers the glucose reappears in the cerebrospinal fluid, increases, and during convalescence may, from the predominance of congestion over bacterial glycolysis, be in excess of the normal, as in the preliminary stage. In epilepsy an excess of glucose is the rule, but in hysterical seizures, however frequent and apparently serious, the glucose content of the cerebrospinal fluid is always normal. In increased intracranial pressure the glucose content is raised, and probably as the result of irritation of the floor of the fourth ventricle rather than of meningeal hyperemia. In concussion Mestrezat, Bouttier, and Logre describe a characteristic change in the cerebrospinal fluid, which comes on in the course of two or three days and disappears after some weeks or months. This change consists in an excess of cerebrospinal fluid, as shown by high pressure, and increased amount of

sugar, associated with an excess of albumin and a smaller number of cells than normal. This characteristic change in the cerebrospinal fluid, found in 80 per cent of the 30 cases examined, is regarded as due to foci of destruction of nervous tissue, with an evidence of meningeal inflammation of infection. Thus there is no leucocytosis or fibrin, and the glucose content is not diminished.—British Medical Journal.

Cause and Prevention of Goiter.—Hunziker (Corresp. f. Schw. Aerzte) after his study of goiter prevalent in different parts of Switzerland, the data he gives seems to carry out his theory that goiter is a functional overgrowth of the thyroid caused by the effort of the organism to make up a shortage in the iodine supply. Since iodine naturally is supplied to the food, goiter prevails in places where there is a deficiency of iodine in the vegetation. In places where goiter is prevalent, iodine-containing manure might supply the plants with the necessary iodine, and thus entirely destroy goiter. The principal goiter regions are found at a moderate altitude, from 600 to 1,000 meters; above or below this, goiter is not so common. The cooking salt used in one comparatively exempt district contained an unusual amount of iodine. Goiters develop in certain years more than in others, which fact may be due to rains washing the salts out of the soil. A sandy soil yields up salts more readily. The plants do not grow as abundantly in a rainy season, and do not take up as much of the salts in the soil. At an altitude above 1,000 meters, vegetation grows so abundantly that it works deep into the soil and takes up the salts. It is noticed that in the comparatively exempt districts, the rainfall occurs in the autumn, instead of in the spring as it does in other places. The conclusion is reached that goiter is an adaptation to a diet in which there is very little iodine. Lack of iodine in plants is what connects goiter with climate and geological formations. An easy way to remedy the lack of iodine would be to have salt made with a small amount of iodine added. He suggests that it would be well to investigate as to whether the heat of the baking would not cause the iodine in salt in bread to be volatilized. A year of "fertilizing people on a large scale by adding iodine to the salt would help to solve the problem. There is a still simpler plan, and that would be to have the salt taken from the salt springs in the district of Waadt which is comparatively

exempt, and sent to a place where goiter is very prevalent and exchange it for the salt made from the springs in the latter district, that have a deficiency of iodine. All the testimony and arguments given point to the fact that a greater amount of iodine should be supplied in districts where goiter is prevalent.

The Diagnostic Value of Special Fluid and Wassermann Tests in Psychiatry.

Fell (Am. J. Insanity) at the Elgin State Hospital in 500 cases in which paresis was suspected serum and spinal fluid Wassermann tests, globulin tests, and cell counts were made. Of these 215 were luetic and 285 were non-luetic psychoses. The number of cases of taboparesis and cerebrospinal syphilis was not sufficient to draw any conclusion except to say that the findings were less constant than in paresis.

In paresis the tests failed as follows: Globulin increase in 2 per cent, pleocytosis in 16.5 per cent, serum Wassermann 7 per cent, fluid Wassermann 4 per cent. In the non-luetic psychosis the tests were positive as follows: Globulin increase in 5.5 per cent, pleocytosis in 3.5 per cent, serum Wassermann in 3.5 per cent, fluid Wassermann in none. Cell and globulin increase in non-luetic psychoses were found especially in organic cases where a differentiation was important. There is abundant evidence that positive fluid findings may occur without paresis in the primary and secondary stages, and it is probable that they occur without the mental symptoms of paresis in the "prepsychotic" stage.

A positive spinal fluid test is not in itself conclusive of paresis, nor does a negative test exclude it. It is, however, so constantly positive in the one case and negative in the other, that it is of the greatest value in distinguishing between a luetic and a non-luetic psychosis.

The extent of the paresis cannot be determined accurately by laboratory tests. We can only say that globulin and cell increase seem more marked in the more rapid cases.

The distinction between a parietic and a tertiary luetic process cannot be determined in the laboratory. The gold chloride test is of some help, but the therapeutic test is the only one of much value. The diagnosis of the combination of paresis with a functional psychosis should be made with extreme caution.

In making a diagnosis of recovery in a case of paresis which has cleared mentally, we should consider: (1) A func-

tional psychosis in the primary or secondary stages of syphilis, (2) a functional psychosis in the pre-psychotic stage of paresis, (3) a remission in paresis. The first two occur quite infrequently, the last very frequently, the spinal fluid findings remaining positive.

Some Observations on the Relationship Between Syphilis of the Nervous System and the Psychoses.—Lowrey (Am. Jl. Insanity) bases his conclusions after a study of eleven cases showing a divergence of the clinical and serological pictures.

1. Of about 2,500 cases examined in three years eleven are sufficiently unusual to be reported on.

2. Of these, four gave the clinical picture of dementia praecox, one of constitutional inferiority, one of imbecility, two organic, and three parietic dementias.

3. In two cases of dementia praecox, the serology of neurosyphilis was found early. In the other two only after many years. In none was it expected. One case has tabetic symptoms, the other no symptoms of neurosyphilis. The case with tabetic symptoms also exhibits catatonic symptoms.

4. These are the only cases of dementia praecox in the hospital showing such serology, though other cases have positive blood tests.

5. One hysterical or constitutionally inferior person developed secondary syphilis five years before death. A year before death, the serology of neurosyphilis was demonstrated. Autopsy confirmed this. No clinical symptoms.

6. An "imbecile" developed general paresis in the hospital. Autopsy and serology typical.

7. An "organic" case without signs of paresis gives the serology of it.

8. A case clinically of Huntington's chorea gives the serology of paresis without clinical signs of it.

9. One case, clinically paresis at first, seems now like dementia praecox, serology positive.

10. One case, clinically paresis, has run an extremely long stationary course. Wassermann negative in blood and fluid, other tests positive.

11. One case clinically and serologically paresis, has as his most prominent symptom, the only one at the present time, auditory hallucinations.

12. We have to with (a) neurosyphilis in unusual causal relations, or (b) coincident psychoses and symptomless neurosyphilis.

13. Diagnoses should be based on both clinical and laboratory findings. The neglect of either may lead to improper results.

The Results Obtained by Systematic Provocation of Malaria.—Hoffmann

(Deutsche Medizinische Wochenschrift) recalls the importance of detecting soldiers afflicted with malaria, even in the latent form. It would seem to be a confirmed fact that a number of infections and epidemics of malaria are to be attributed to unrecognized instances of the disease, the subjects being the source of infection of mosquitos in a given region. The appearance of malaria in previously uninfected regions and coinciding with the end of winter is essentially attributable to this manner of contagion. The procedures of provocation and consequently those of diagnosis, enumerated by the writer, are as follows: Injection of sterilized milk, faradization of the splenic area, injection of tuberculin, typhoid vaccination and divers other vaccines. Besides, general irradiation with the ultraviolet rays may attain the same end, while adrenalin has been resorted to for the object of contracting the unstriated muscles of the spleen and ergotin and hypophysary products likewise possess a similar action. Hoffman has employed the following procedure: A vapor bath at 55 deg. C. for ten minutes followed by a bath at 20 deg. C. for three minutes. On the following day these baths are repeated. Then he resorts to faradization of the splenic region until rubefaction has taken place and this is followed by muscular exercises with douching and cold compresses over the spleen. This very varied procedure has not given rise to any untoward effects on the health of the men submitted to it, while the results obtained have been directly utilized from the standpoint both of prophylaxis and treatment. Out of a total of 480 apparently cured convalescents, 9 per cent. showed that they were still infected with the plasmodium. Of these forty-one cases four had the organism in the blood which could be detected in the hanging-drop preparations with clinical symptoms of distinct malarial paroxysms. The provocation of the disease had to be renewed in several instances before a positive result could be obtained and one patient, Hoffmann reports, did not react until the provocative procedure had been resorted to twelve times.

The Selection of Abdominal Cases for Operation.—Richards (British Medical Journal), upon a basis of 200 operations for war injuries, says that the decision as to whether a man wounded in the abdomen should be operated on or not is usually based on the time which has elapsed since the injury and the rate and character of the pulse. Of the patients who survive operation performed in the first twelve hours a high proportion will have had their lives saved by it, and this is true in a lesser degree of those operated on in the second twelve hours. After this time most of those who survive operations are those whose injuries were not originally fatal. Men with a pulse of 120 or over have less than half the chance of survival of men with a lower pulse. Recently wounded men with a rapid pulse should nevertheless be operated on, provided that their condition is as good as it is ever likely to be, that they have a reasonable chance of surviving the actual operation and that the time taken does not prevent the proper treatment of other wounded. Every wound of the abdominal wall, however slight, should be explored, whether signs of internal injury are present or not. If it is found to be penetrating the abdomen should be opened. The necessity for deciding between the claims of abdominal and other cases can be best avoided by good theater organization, the provision of two tables for each surgeon and by not allowing slow operators to do abdominal work. If these measures are insufficient the decision should be left in the hands of the surgeon in charge of the preoperation ward.

A Method of Citrated Blood Transfusion.—Robertson (British Med. Jour.), says that the use of citrated blood for transfusion seems to fill a definite need in that the technic is relatively simple, easily acquired and can be carried out entirely by one medical officer. Furthermore, this method obviates the necessity of having the donor and recipient together, and the blood can be given at the bedside. Stress is laid on the fact that although the technic is apparently simple, certain definite precautions must be observed in the handling of the blood in order to obtain good results. The chief considerations in the technic are to get the blood quickly and cleanly into the citrate, to obtain prompt and thorough mixing of the blood with the citrate and to transfuse the blood so soon as possible after the bleeding. An apparatus is

described which can easily be constructed and has been found to work satisfactorily. The blood is received into isotonic sodium citrate, 3.8 per cent. The amount of this solution, 160 c. c., contains 6 grams of sodium citrate, which has no harmful effect. When a good flow is maintained through a needle of adequate caliber and the blood and citrate are well mixed as large a quantity as 800 c. c. of blood may be obtained by this method. A series of 44 citrate transfusions were given under rush conditions at a casualty clearing station, with good results. The immediate effect of the transfused blood and subsequent progress of the cases were fully as good as that seen following ordinary transfusion. No reactions of any consequence were observed.

The Treatment of Dermatitis Venenata by Vegetable Toxins.—Strickler (Jour. Cutaneous Dis.), from an experimental study of dermatitis venenata concludes that the intramuscular administration of the toxins obtained from various poisonous plants influences the courses of the disease although he does not advocate this procedure as a routine method of treatment and would employ it only in extremely severe cases. He believes the immunity obtained is a tissue immunity which is very transitory and must be frequently renewed. The writer thinks it impossible to produce an endemic test by which the particular plant to which the individual is susceptible may be detected. The doctor failed to find any complement-fixing bodies in the serum of those who had an attack of dermatitis venenata and who had been treated by injections of homologous vegetable toxins. He regards it as possible to desensitize individuals so that they may be immune from the affection. (Von Adlung, experimenting upon rabbits and guinea-pigs with poison oak, was unable to produce immunity.)

Bacteriology of Vernal Influenza.—It is entirely conceivable that in the course of a pandemic the bacteriologists of one country might be more favored by chance than those of others in the recognition of the presence of organisms, especially of new microorganisms, in the secretions of the victims. This applies also to the discovery of old germs in new roles. We note that in the present pandemic, after much report of negative results, authors are beginning to announce positive finds of pneumococci and microorganisms. In

Italy, in the latter part of May, the troops were attacked with what was apparently pappataci fever. At a later date this view was changed and the epidemic was pronounced to be influenza, in which the offending microorganism was the tetragenes. The latter was found in the blood, in pleural exudate, etc. According to an abstract in *La Riforma Medica* for July 20, Saccone made blood cultures of 120 soldiers at various days of the fever. Nothing was found after a certain interval had elapsed, but in the first day or two of the disease positive results were obtained in about half the cases tested. The organism was in the grouping of both the tetragenes and diplococcus, and also was seen isolated and in chains. It took the gram stain readily. By reason of its variation from the ordinary tetragenes the author terms it the "*Micrococcus metateragenes* of vernal influenza."—*Medical Record*.

Lumbar Puncture for Headache.—

The *British Medical Journal* states that it has long been known that severe headache results in many cases from increased intracranial pressure. Instances have been recorded in which relief from such headaches has occurred after the spontaneous discharge of cerebrospinal fluid from the nose or from the ears, or from both. Hence it is not unnatural to suppose that severe recurrent headache may in some cases be due to sudden increase of the pressure of the cerebrospinal fluid, whatever the cause of this increase may be, and that lumbar puncture should relieve such headaches. Professor Mingazzini, of Rome, has recently published an account of forty-seven patients treated on these lines. All these patients had more or less permanent or continuous headaches not relieved by the ordinary methods of medical treatment; six were men, forty-one women. Cases with tuberculosis, syphilis, granular kidney, chronic alcoholism or excessive tobacco smoking, epilepsy, and intracranial tumors, were excluded from this series of patients. In every case the cerebrospinal fluid withdrawn was found to be normal on examination, free from globulin, and contained only a few lymphocytes. As a rule, the lumbar puncture made the headache worse for a few days, but a definite cure was obtained in twenty-four cases and a considerable improvement in fifteen more. No benefit resulted in the remaining eight. One patient, a woman of sixty, who had frequent headaches since her youth and daily for the preceding six

months, was cured by a single lumbar puncture; another patient, a girl of 22, who had headaches for two years, after typhoid fever, received no benefit from the puncture.

It was noted that if the pressure of the cerebrospinal fluid was normal or low, lumbar puncture failed to relieve the headache; it was successful where the pressure was found to be high. The results seem independent of the quantity of fluid withdrawn; thus no improvement might follow the removal of 15, 20, or even 30 c. c., while cure might follow the withdrawal of 10 or even 5 c. c. Analysis of the histories of the patients seemed to show that the treatment acted best in cases in which the headaches had begun at the age of ten or twenty, and had later become permanent for no appreciable cause.

The patients not improved by the puncture were those in whom the headache had been permanent from the outset, or had begun later in life and become permanent after lactation or the onset of some illness, or was associated with a neurosis, such as trigeminal neuralgia or epilepsy. The pathology of these headaches Professor Mingazzini leaves, as he found it, obscure. They are thought to depend on increase in the quantity and pressure of the cerebrospinal fluid, due to some upset in the balance between secretion and absorption. Some connection between the choroid plexuses, the main secretors of the fluid, and glands with internal secretions, such as the ovaries or testes, has been thought to exist; this would explain, in part, the frequency of monthly headaches in women and the general tendency of headaches to grow less with advancing years.

Vaccination and Variola in Mexico.—

In the month of May, 1918, nearly 37,000 tubes of vaccine were distributed throughout parts of Mexico by the Federal Health Department. The actual number vaccinated in thirteen municipalities was 6,316, of which 5,230 were in Mexico City. Over one-half had been vaccinated before. The disease is not epidemic and but 21 deaths occurred from this cause in Mexico City for May. But nine patients with variola were interned outside of the city in the hospitals for contagious diseases in the registration districts. In the same area 22 premises were disinfected for variola.—*Voletin del Departamento de Salubridad Publica*.

The Modern Conception of Diabetes.—The London Lancet says that diabetes has always been characterized by the excretion of sugar in the urine. Previously the generally accepted treatment has been to exclude carbohydrate from the diet, but, at that, the patient still excreted sugar. The source of this sugar has been traced to protein. Protein consists of some eighteen aminoacids. Some of these are converted, in diabetic patients and in experimental animals (depancreatized, phloridzinized) into glucose. Another origin of carbohydrates in diabetics in fat; but this is not of outstanding importance.

The acetone, acetoacetic acid, and oxybutyric acid which are characteristic of severe cases of diabetes have been proved to be derived from the fat of the food, but they may also arise from protein. Acetoacetic acid is the primary product, oxybutyric acid being a reduction product of acetoacetic acid. The production of acid was formerly thought to be the cause of diabetic coma, but the coma is really due to the toxic action of acetoacetic acid. Since acetoacetic acid is a ketonic acid, the term ketosis might be used in preference to acidosis. Though acetoacetic acid may, theoretically, be derived from carbohydrate this source may be excluded, according to the latest work done by Hurlty.

Glycosuria is then derived from the carbohydrate and protein of the diet; the acidosis, from the fat and to a small extent from the protein. The diabetic uses the carbohydrate of the food too slowly; some of his carbohydrate he derives from the protein and fat leading to more decomposition of these than normal and the production of more acetoacetic acid, which is reduced to oxybutyric acid, and excreted, instead of being oxidized as normally.

The modern treatment of diabetes as described by Dr. E. P. Poulton in his Goulstonian lectures is to reduce the amount of all kinds of food stuffs to the lowest possible limit, thus reducing the quantity of the excretory products. The mortality in Guy's Hospital has been reduced from twenty-three per cent. in the ten years previous to 1916, to seven and seven-tenths per cent. since 1916, owing to the adoption of this method of treatment. The carbohydrate disappears from the urine and there is less acetoacetic acid. By careful addition of carbohydrate to the diet the patient's tolerance for carbohydrate is determined; similarly the protein and fat amounts are adjusted. By

this method of treatment the patient may attain a diet of 1,500 to 2,000 calorie value, the lowest possible limit for the normal individual.

Utilization of Platinum in Unused Instruments.

1. In view of the limited supply of platinum in the country and of the urgent demand for war purposes, it is requested that every doctor and dentist in the country go carefully over his instruments and pick out **every scrap of platinum** that is not absolutely essential to his work. These scraps, however small and in whatever condition, should reach Governmental sources without delay, through one of two channels:

(a) They can be given to proper accredited representatives of the Red Cross who will shortly make a canvas for that purpose.

(b) They may be sold to the Government through any bank under the supervision of the Federal Reserve Board. Such banks will receive and pay current prices for platinum.

By giving this immediate attention you will definitely aid in the war program.

2. It is recognized that certain dental and surgical instruments requiring platinum are necessary, and from time to time platinum is released for that purpose. It is hoped, however, that every physician and every dentist will use substitutes for platinum for such purposes wherever possible.

3. You are warned against giving your scrap platinum to anyone who calls at your office without full assurance that that individual is authorized to represent the Red Cross in the matter.

Results of Blood Transfusion.—Rieux (Paris Medical), reviews the subject of blood transfusion, as illuminated through general discussion at the recent Fourth Interallied Surgical Conference. He takes up first the rules for choosing donors, then the indications for transfusion, and later the various methods employed. The artery to vein method may now be considered obsolete. Transfusion of pure blood from a receptacle coated with paraffin, of citrated blood, or of preserved blood method being simplest of all, though not as yet definitely established. Transfusions in rather large series of cases yielded 71.8 per cent. of recoveries in cases of hemorrhage or of hemorrhage with shock; twenty-seven per cent. in cases of pure shock, and 44.4 per cent. in cases of infection. Results from the three

methods referred to—pure blood, citrated blood, and preserved blood—have seemed practically the same, about three-fourths of all cases of grave hemorrhage being saved. The percentage of recoveries in the entire number of cases of different types under discussion, covering 150 transfusions, was sixty. This result is so gratifying that Tuffier has characterized the lack of attention paid until lately to blood transfusion as one of the gravest therapeutic omissions since the beginning of the war.

Early Vaccination of the Newborn.—Wurtz (Bulletin de l'Académie de Médecine), states that the French laws recommend waiting three months before vaccinating a child at the breast. Pinard, however, has long been a partisan of immediate vaccination, deeming it better to take the risk of nonsuccess than to delay the procedure. Recently an unvaccinated child two months old succumbed to smallpox in Paris. Tissier in 1904 published a paper based on statistical data from which he concluded that the chances of nonsuccess at birth are greater than two or three weeks later; inherited immunity rapidly becomes attenuated at the expiration of this period. Yet Tissier, in common with other accoucheurs of the Paris hospitals, himself practises and advocates early vaccination of the new born. Exception is made in cases of congenital debility, skin affections, etc. Bonnaire, having witnessed a case of death from hemorrhage after vaccination of a newborn child, waits until the eighth or tenth day. Wurtz advises that the official recommendation as to time of vaccination be altered to read "all children over ten days and less than three months old."

Safety First.

Thus when we have such diseases as Lithemia, Rheumatism, Gout, Tonsillitis, Rheumatic throat conditions, Eczema, Urticaria and manifestations due to the backing up of the poisonous uric acid in the blood, we naturally turn to the treatment of diet and a proven uric acid solvent.

So, too, in those conditions where perverted metabolism is caused by such fevers as pneumonia, typhoid, etc., we seek to have a more rapid convalescence by elimination of the excess of uric acid.

And finally in diseases of the kidney where even the normal formation of uric acid is not easily eliminated, we must aid

it in elimination to prevent any serious backing up which usually occurs.

It is important in all these cases to take the question of increased uric acid formation in hand early, and ample clinical evidence indicates that Hayden's Uric Solvent meets successfully these requirements.

A faithful trial of it in two or three cases proves its worth, and when once tried its field of usefulness will become enlarged.

A tried and proven product gives safe and sure results.

Administration.

The usual methods of administration are as follows but with continued use you will find in some cases slight changes will better meet such conditions as the severity of the cause or the idiosyncrasies of the patient.

Method of Administration.—As a tonic or alternative, give one teaspoonful of Hayden's Uric Solvent three times a day, half an hour before meals and at bedtime. As a solvent and diuretic, give two teaspoonfuls, which may be repeated three or more times a day, at the discretion of the medical attendant and the urgency of the case. The treatment here laid down should prove most satisfactory. As will be seen by the formula of Hayden's Uric Solvent, the first object is to alkalize the blood and thereby neutralize the most prominent causes of neuralgia and rheumatism, where such a diathesis exists.

Causes of Chorea (Arch. de Med. des Enf.)—J. Comby insists that a slight acute encephalitis is the anatomical substratum of this disease. Out of 39 cases, in 6 evidences of hereditary syphilis were forthcoming, 7 of the 39 gave positive Wassermann reactions, 4 gave feeble or doubtful reactions, and 27 gave negative reactions. Clinical results do not give any satisfactory proof that the disease is syphilitic. Twenty-four of the 39 reacted positively to von Pirquet's test, but this was only a coincidence as tuberculosis is found in over two-thirds of hospital post-mortems. Evidence of articular rheumatism was only present in 6 cases and endocarditis in 8. In one case in every three evidences of rheumatism are forthcoming, an exactly similar result to that obtained for syphilis. Rest, milk diet, and arsenic in gradually increasing doses are strongly advocated.—The British Journal of Diseases of Children.

The Successful Conservative Treatment of Early Gas Gangrene in Limbs by the Resection of Infected Muscles.—Frankau, Drummond and Neligan (J. Roy. Army M. Corps), state that their experience corroborates the observations to which Cuthbert Wallace first called attention, viz.: (a) that gas gangrene has its initial focus in the injured muscles in all cases; (b) that the infection travels in a longitudinal direction in the muscles and there is little tendency for it to pass from one muscle to the other.

In view of these facts the authors resect the infected areas so as to arrest the infection in the muscle or groups of muscles involved. Resection is contra-indicated if the main blood supply of the limb is cut off. Resection should extend until muscle is reached which has the following characteristics: (1) unchanged color; (2) normal contractility; (3) a good blood supply, as indicated by free bleeding from the cut surface.

The treatment of cases after resection is carried out on the following lines: (1) reduction of dressings to the absolute minimum; (2) constant or intermittent irrigation of the wound by some modification of the Carrel method.

The remainder of the article is devoted to a report of cases illustrating the clinical application of the principles laid down by the authors.

Bone Growth and Bone Repair.—Keith (British Medical Journal), gives a historical review of the investigation as to the growth and repair of bones. The author mentions Duhamel who took advantage of the work of the English surgeon Belchier. The latter found after feeding animals food containing a dye substance and alternating this diet with an ordinary one, that he could obtain alternated red and white rings or layers on the circum-

ference of the bone, the latest formed layer or plate being on the surface of the bone immediately under the periosteum. In this way he came to regard periosteum as the maternal tissue of bone; the osteogenetic function is Duhamel's discovery.

John Hunter, on the other hand, believed with Haller that the normal periosteum had no bone-producing power and that only arteries could form bone, and if periosteum should under abnormal circumstances become a site of bone formation, then that was merely evidence that its arteries could assume a bone-building power. Hunter's investigations, however, of the healing of fractures agreed with those of Duhamel. The latter regarded the uniting as a progress of the periosteum, while Hunter believed that it came from the broken ends.

The author states that these two men of the eighteenth century, Duhamel and Hunter, laid the basis of present knowledge as regards the physiology of bone; and of the two, Hunter laid the firmest and deepest part of that foundation.

Gastralgic Attacks.—Two teaspoonfuls of Seng shortly after eating, have been found exceedingly effective for preventing gastralgic attacks. The beneficial influence of Seng on the gastric glands is shown by an increase in gastric tone and a markedly lessened nervous irritability.

Immunization of Gravidæ Against Puerperal Fever.—In Bumm's clinic, Berlin, gravidæ are being actively immunized against puerperal fever by the use of a polyvalent vaccine obtained from streptococci present in virulent puerperal sepsis. The results are encouraging.—Correspondenz-Blatt für Schweizer Aerzte.

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AN INTRODUCTORY TALK ON DISEASES OF THE MIND— MOSTLY DEFINITIONS.*

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Success or failure in life, happiness or unhappiness, all depend upon the individual's adjustment to his surroundings. This adjustment is made possible through that part of the body mechanism spoken of as the nervous system. Through certain portions of this system referred to as the special senses we receive all our knowledge about our surroundings. By means of vision, we see objects, we judge of their size, color, distance from us, and of many other qualities. By means of hearing, we inform ourselves about disturbances that are taking place near us. Through the sense of taste is acquired knowledge of substances placed upon the tongue, and by this sense we are enabled to know in a general way whether or not these substances are fit to be swallowed. Touch is a most important sense. All these so-called special senses are parts of the defensive agencies with which we are equipped in order to protect ourselves. In response to information furnished by these senses the arms and legs and other parts of the body act in efforts to defend the body and to nourish it. Most of our daily activity is a fight against danger and an effort to feed and to clothe the body. Education is acquired mostly through the special senses for the purpose of enabling us to live more easily and more efficiently. These illustrations will give you an idea of the importance of the special senses.

One or more of these senses may occur at any time during life. Some of these senses are more important than others. Vision and hearing are the senses generally absent. Usually only one of these is absent in the same person. Loss of hearing is more important than loss of vision, inasmuch as a deaf person sooner or later becomes also mute. If hearing be lost, there is no guide to speech, and one cannot tell whether one is making a sound or not. Much more of our information is acquired through hearing than we realize. Still

more, however, is obtained through sight. We see more things than we hear. The earlier in life one of these senses is lost the greater is the calamity for the reason that one is then bound to go through life without the information usually acquired by that particular sense. Think what each of you would be without if you had never seen, or if you had always been deaf! A deaf person or a blind person can never be thoroughly educated. But usually when one special sense is lost another is made correspondingly sharp to make up for the loss. The blind hear acutely; the deaf see vividly.

More serious than the loss of a special sense, however, is the mistaken notion which sometimes arises in an individual's mind about some special sense. Those of us who have to do with patients who are mentally abnormal know that they sometimes hear sounds and voices that those around them cannot hear. Sometimes they tell us that they can see objects which we cannot see, although we may be standing by them. The notion that we see an object if the object is not there is an hallucination of sight: if a sound is heard that is not there then that is an hallucination of hearing. An hallucination is an idea arising without an external stimulus to cause it. I say that I see, for example, a piece of chalk here on the table. I have in my mind the idea of chalk because here is a stick of chalk to stimulate my vision and in that way to give rise to the idea. If I protested that I see a stick of chalk where there is none I should have an hallucination of vision. There may be an hallucination of any of the special senses—of touch, smell and taste, for example. Many mental patients do not have hallucinations, but the presence of hallucinations points to considerable mental disturbance. These various hallucinations may be present in many forms of mental disease. Sometimes hallucinations are pleasant. Occasionally patients see angels, God, beautiful birds in the air, and flowers on the grounds. More often they see the devil, demons, snake and terrible-looking creatures. So far as the patients are concerned, they not only think they see these things, but they actually see them.

Often the information brought to the mind is misinterpreted. Misinterpretation of information is called an illusion.

*Delivered to the Junior class of the Medical College of Virginia, April, 1918.

An illusion may be referred to any one of the special senses. For example, if the patient believes that the door knob is a clock, that is an illusion of sight. If the patient believes the sound of the water dropping from the house is footfalls that patient has illusions of hearing. Most of us in our daily life are troubled, at times, by illusions. For instance, we mistake the stranger coming down the road for the person for whom we are looking. What we think of as hallucinations in patients are often illusions. A patient, for example, may mistake the voices of the nurses in the hall for hallucinatory voices that talk about the patient.

In reference to hallucinations, I dare say that you have already reached the conclusion that in such a condition there is something wrong with the mind. Your conclusion is correct.

In other abnormal mental conditions the information that is carried to the brain by the special senses may not be intelligently attended to. If nervous impulses are altogether unnoticed, the condition is unconsciousness. In other words, unconsciousness may be defined as unawareness of one's surroundings. Consciousness means that one is aware of one's surroundings. Unconsciousness does not necessarily mean disease. We are unconscious when asleep, and when under the influence of ether or chloroform. There are many steps between consciousness and unconsciousness. Stupor or drowsiness is partial unconsciousness. When partially asleep we are stuporous. Many mental patients are stuporous. They are difficult to arouse. It is hard to wake them up to an interest in anything.

By attention we mean the ability to fix the mind upon any single thought or line of thought. Sometimes the attention is passive: we exercise little control over it in such conditions, and, as we say, the mind wanders. This is the state of mind when one is hearing a dry sermon, listening to a dull lecture, or trying to pay attention to a dull story. The attention is active, on the contrary, when the mind is fixed without difficulty on one thing. When we are tired the mind wanders; we are inattentive. In conditions of unconsciousness, or in near approaches to this state, there is practically no attention. This faculty that we call attention is most important. If highly developed, it brings success; if poorly trained, it causes failure. In the schools we see all kinds of efforts made to keep the children attentive—to keep their attention wide awake

—by pictures, by story-telling by the teacher, by games, and so on. The idea here is not to get their minds off their lessons, but to keep their minds on school—to make them attentive to the school work. The clothing stores and the dry good stores try to keep our attention on our personal appearance by their window displays. Most individuals give their attention—most of it—to one line of work—to one thing. Here all of us give our attention mainly to taking care of the sick. But in many people we see that there is no fixed attention on any one thing very long. They do one thing for a little while and then something else. They do not make much progress. In some mental diseases the patient exhibits very unsettled attention. One thing is talked about for a second; then another thing and another and another—second after second. Such a condition is known as distractibility of attention. Distractibility means control of the attention by accidental suggestions—either from without or within.

Memory is an important mental faculty. It is the ability to live over in the mind the events that have already occurred—it is to recall our past. Without memory any considerable degree of education is impossible. Memory may be entirely absent. Idiots probably have little, if any, memory. The loss may come late in life; all events may be lost and it may be impossible to learn anything. This condition is seen in the mindlessness of old age.

Orientation is an important feature of our mental life. Orientation means an understanding of ourselves in relation to time, space and personal identity. While awake and in our right mind we know where we are, who we are, what time of the year and the month it is. Some mental patients do not have this knowledge. They are said to be disoriented. A patient may be disoriented only as to time; another, as to place, and another patient may not even know who he is—he may be disoriented as to personal identity. Disorientation is inability to understand oneself with reference to one's surroundings. Disorientation, as you know, may depend upon other mental disturbances: in one, it may be due to stupor; in another, to failure of memory. Our thinking passes from one thing to another—it moves along—so we may figuratively speak of the train of thought. Generally the mind exercises from the inside of itself, so to speak, considerable control over the objects of thought. But some-

times it skips from thing to thing: the mind thinks about what it sees from second to second, and thought is determined not so much from the inside as by what the eye happens to see or the ear happens to hear. This condition is called flight of ideas. It is common in mania and in states of excitement. Healthy children also exhibit flight of ideas. The child thinks about what it sees or hears.

Occasionally the thought process is retarded or slowed. The individual is aware that he cannot think immediately about what he wishes to think of. The patient may not be able to respond to you promptly, either by speech or by movement. This condition is found in certain types of mental depression. Such a patient is apt to vex the physician because the physician may assume that the patient is simply stubborn or contrary. The patient is well aware of the retardation and greatly troubled about it. He can think and act if given time.

Reason is that faculty of the mind which enables one to make use of experience. If a new situation presents itself we may feel helpless for a few moments, but then we reason, as we say. In other words, we make use of our past—that is, our experience—in finding out what to do: several possibilities may present themselves—we may do one of several things. Finally we reach a decision—we do one thing. This quality of mind which enables one to make a selection is called judgment. Individuals differ in their reasoning processes and in judgment: some reason well and have good judgment; others reason poorly and have bad judgment.

The process of reasoning in certain mental diseases becomes faulty, and delusions arise. A delusion is a morbidly falsified belief which cannot be corrected by argument or by experience. It is a notion which is right only in the patient's opinion. Everybody else easily understands how wrong the idea is. A delusion is a deeper and a bigger thing than a wrong idea or a mistaken notion. If proof is submitted to a sensible person that his notion is wrong he can and will correct it. But a patient's delusion cannot be corrected in this way, because he cannot believe the proof.

Delusions are of two general types with reference to the patient's feelings—depressive and expansive. Depressive delusions are such as make the patient unhappy and wretched. As an illustration of such delusions, we have the belief that the soul is lost, that the patient has a

horrible disease, that all his people are dead, his stomach has grown up, the food has been poisoned, detectives are after him, and he will be executed. Expansive or grandiose delusions are encountered generally in conditions of excitement or mania. The patient's belief that he is God, Napoleon, Roosevelt, the Kaiser; that he has great wealth, is extremely intellectual, unusually handsome and that many women are anxious to marry him are examples of expansive delusions. Patients who have depressive delusions think little of themselves and they are liable to commit suicide. Those who have expansive delusions think too well of themselves and are apt to do harm to others. The depressed individual is a nuisance to himself; the expansive person is a nuisance to everybody else.

GALL-STONE DISEASE COMPLICATING PREGNANCY.

By Aime Paul Heineck, M. D., Chicago, Ill.

During gestation, women are subject to many surgical conditions. The safety of the product of conception, the safety of the mother, demand that our knowledge of these surgical ailments be increased. Definite and accurate conclusions should be formulated as to the most opportune, most appropriate, and therefore the most scientific treatment of any and all surgical states complicating pregnancy. In previous contributions, we stated that every case of ectopic pregnancy, irrespective of type or stage of development, calls for the immediate ablation of the ectopic ovum. Immediate operative removal of the ectopic ovum terminates the gestation and protects the mother from the morbidity and fatality incident to extra-uterine pregnancy.

In other contributions, also published in these columns, we urged that every case of appendicitis complicating pregnancy be subjected to operation during gestation. Appendicitis is a surgical disease; when it complicates pregnancy, it calls for the immediate operative removal of the inflamed appendix, irrespective of the type of inflammation, irrespective of the age of the pregnancy. In women, previous to and during the child-bearing period, the non-operative treatment of appendicitis invites disaster, immediate, remote, or both. The timely removal of the inflamed appendix to a great extent protects the mother from the complications and sequelae, from the morbidity and mortality, incident to appendicitis. Operative removal of a diseased appendix

does not interrupt gestation, does not exert any unfavorable influence on delivery.

The frequency of cholelithiasis makes this condition one of great practical interest. In the collective statistics of nineteen European and American authors, 80,802 necropsies, the frequency averaged 5.94 per cent. (Hesse.) As the manifestations of gall-stone disease are often unrecognized, misinterpreted, or misdiagnosed, its incidence is greater than is supposed, is far greater than the number of reported cases would lead us to believe. It occurs in both sexes and at all ages, in the fat, in the lean, in the weak, and in the strong. The older the patient, the more liable is he or she to have gall-stones. "Gall-bladder disease is pre-eminently a disease of the middle aged female, but is by no means confined to that age or sex."—Deaver.

Gall-stone disease is of common occurrence during pregnancy, during the puerperium, during lactation. In fact, its greatest incidence is in the child-bearing period. Statistics have established beyond dispute that gall-stone disease, latent or manifest, is more common in women than in men. Out of 655 patients laparotomized for gall-stones, 536 were women, 119 men. (Kehr.) Of 1,244 women operated upon for uterine myomata at the Mayo Clinic, 92, or 7.1 per cent. had gall-stones.

Statistics of 920 cases of cholelithiasis, (K. Grube.)

	Age 10-20	21-30	31-40	41-50	51-60	61-70	71-80
Male	2	6	44	55	38	6	5
Female	8	114	213	215	148	52	14
Unmarried women	6	24	27	27	19	2	2
Married with children.....	1	82	177	176	124	44	9
Married without children	1	8	9	12	5	6	3

Unquestionably child-bearing has something to do with the frequency of gall-stones in that state. Cholelithiasis may complicate a pregnancy otherwise normal; it has been found associated with ectopic gestation. (Brothers.) It occurs in primiparae, (Heineck); deutoparae, (Barillon); multiparae, Vill-para, (Roith); IX-para, (Graham). Manifestations of cholelithiasis may precede, coincide with, or follow an abortion or a premature labor. In seven of the analyzed cases, there was a history of one or more abortions, accidental or induced; Watson, one; Villard, two; Peterson, six; Brothers, ten. Gall-stone disease may become manifest and necessitate operative relief at any period of gestation; 2nd month, (Bosse); 3rd month, (Roith);

5th month, (Mack); 6th month, (Moulden); 7th month, (Davis). In a large number of cases, the initial symptoms first occur during the child-bearing period. (Rudeaux). Our cases can be classified according to patient's age at time of operation as follows. The youngest was 21 years old, (Villard), the oldest 42 years, (Amann). From 25-29 years, inclusive, 19 patients, 30-35 years, inclusive, 11 patients, 36-40 years, inclusive, 5 patients. Ploger reports cases in which there was a definite aggravation of symptoms during pregnancy; Naxera reports eight cases in which the first attacks of biliary colic occurred during gestation. "Seventy-five per cent. of gall-stones are found in women and in 20 per cent. of these patients, the symptoms developed during pregnancy." (Torrance). Gall-stones are more commonly found in women who have borne children than in those who have remained sterile. Osler, quoting Naunyn, states that 90 per cent. of women with gall-stones have borne children. "84 per cent. of 135 women with gall-stones had borne children." (Peterson).

The literature of the subject contains case reports like the following. In an empyematous gall-bladder, associated with pericholecystitis, perforation from stones occurred during labor. Two days later the patient was operated on, and thorough drainage was instituted; sepsis

developed. Death occurred on the third post-operative day. (Rose). Rupture of a calculous gall-bladder can occur previous to, during, or after labor. Pinard successfully operated a case of calculous cholecystitis on the 11th day of the puerperium. Vineberg incised the gall-bladder in two cases of acute cholecystitis, in one case, on the 10th day, in the other, on the 12th day after delivery and removed numerous small stones therefrom. Both cases recovered. In the same report he discusses a case of acute diffuse peritonitis consecutive to a ruptured gall-bladder, supervening a few hours after normal delivery. The condition was too grave to warrant surgical intervention. Death resulted twenty-four hours later.

This patient had had, during her pregnancy, several attacks of biliary colic; her distended gall-bladder had been mapped out. Potocki's patient, a deuto-para in the 8 1-2 month of a normal pregnancy, had a sudden attack of right hypochondriac pain, nausea, vomiting, etc. Labor having started, the patient was delivered of a living, normal child. Eleven hours after the termination of labor, a cholecystostomy was performed; the gall-bladder contained pus and numerous calculi. Drainage. Recovery. In the discussion provoked by Graham's case, there was reported a case of death from general peritonitis due to rupture of the gall-bladder during labor. The post-mortum revealed the rupture and 250 stones scattered about in the abdomen. Medical attendants should keep in mind that fever during the puerperium can be due to causes other than puerperal fever; appendicitis, gall-bladder disease, etc.

Greater familiarity with the symptomatology, clinical course, and treatment of cholelithiasis complicating pregnancy will lessen the frequency of occurrences such as the preceding, and will also qualify us to combat successfully, the various manifestations of gall-stone disease. I have analyzed and studied all the cases of undoubted gall-stone disease complicating pregnancy reported with sufficient data, forty cases in all, in the French, English, and German medical literature, during the years 1900-1918, inclusive." Many more cases were studied but owing to the fact that they are not reported with sufficient detail, they have influenced our conclusions only in a general way. In each case the diagnosis was verified either at the time of operation, or at the autopsy.

Etiology.

The cause of gall-stone disease is not definitely known. Numerous theories have been advanced; not one has, as yet, been found worthy of general acceptance. The following three factors, owing to their frequency previous to or during the existence of gall-stone disease, impress one forcibly as being important predisposing causes. In the individual case, one, two, or all of these three favoring influences may be operative.

- a. Conditions associated with, favoring, or causing biliary stasis.
- b. Inflammatory states of the biliary tract, primary or secondary to local disease, or to some general febrile state.
- c. Regimens or diatheses favoring or causing hypercholesterinaemia.

Cholesterin, the principal component of gall-stones, is derived from the bile. Simple bile-stasis can, through the precipitation of cholesterin, lead to cholesterin-stone formation. Precipitation is prone to occur in inspissated bile, and the elements thrown down may lead to stone formation. In the later months of pregnancy, the abdominal muscles and the diaphragm contract feebly, and the bile being inefficiently expelled, stagnates in the gall-bladder.

Stasis, in addition to separating out the essential constituents of gall-stones from the bile, favors the growth of bacteria in the residual fluid. According to Sherrington, bacteria cannot enter the bile ducts, as long as the bile is expelled at regular intervals. Bile is not an antiseptic; it does not prevent the development of bacteria; left exposed to bacterial contamination it undergoes putrefaction. Obstruction to the bile outflow may be due to foreign bodies present in the gall-bladder, or in the larger bile ducts, may be determined by inflammatory or other degenerative changes involving the gall-bladder or the bile ducts, or may result from such pathological states of contiguous organs as lead to impingement of one or more of the latter upon the bile ducts. Obesity, sedentary life, constipation, tight clothing, such as ill fitting and improper corsets, etc., are held by some to be predisposing factors. Miyake believes that the non-wearing of corsets by Japanese women is one of the principal reasons why gall-stones are so infrequent among them.

Bacterial organisms are said to be the most essential cause in the majority of cases of gall-stones. In this connection, one should not ignore the relation of mouth and teeth infections to appendicitis and cholecystitis. In some cases, supplementing the noxious influence of bile stasis, in others, acting independently, in many, acting conjointly, there is present a bacterial inflammation of the mucous membrane of the gall-bladder, of the bile ducts, or of both. If the stone be of aseptic origin, the abnormal element lies in the composition of the bile; if the stone be of inflammatory origin, the pathological condition is the cholecystitis or catarrh of the gall-bladder.

A history of acute cholecystitis first observed within a few weeks or months of parturition is given by many of the patients operated upon for gall-stone disease. Both pregnancy and the puerperium are not infrequently complicated by acute exacerbations or recurrences of cholecysti-

tis. (Bettmann.) The gastro-intestinal disturbances, and constipation that attend the pregnant state no doubt favor the migration of the bacillus coli to the gall-bladder.

Although infection and retarded bile outflow predispose to gall-stone formation, they are not all-sufficient. Occlusion of the cystic or of the common duct may co-exist with an infected gall-bladder, and yet no gall-stones form. In order to produce calculi, infections of the gall-bladder must be of low type: Colon bacillus, bacillus typhosus, staphylococcus, etc. Typhoid fever is considered an important etiological factor; it occurs in all lands and among all races, still gall-stones are very uncommon in the tropics; typhoid fever is less prevalent than formerly, but there seems to be no decrease in the number of patients having gall-stones.

Diathetic conditions can so alter the composition of the bile as to favor, suitable local conditions existing, the production of calculi. The supposition is that gall-stones are deposited as a result of error in metabolism (over concentration of cholesterin in blood and bile.) Aschoff's theory of gall-stone formation can be stated briefly, as follows: cholesterin is a normal constituent of the bile and of the blood, its amount therein depending upon the amount of cholesterin in the food. A diet rich in fats and albuminous foods raises the cholesterin content of the bile. There is a distinct cholesterin diathesis. Persons with this diathesis, even upon an ordinary diet, retain their lipoids; an increased cholesterin content of the blood and of the bile results, and sooner or later, a sudden precipitation of the bile cholesterin in the form of gall-stones may occur. Stones are often present in patients with no excess of cholesterin in their blood—the cholesterin shower having occurred at some previous time.

While in the pregnant woman, the presence of hypercholesterinaemia associated with a clinical history of gall-stones is strongly suggestive of cholelithiasis, a low cholesterin figure does not prove the absence of gall-stones. The cholesterol increase becomes manifest during the latter half of gestation. (Slemmons & Curtis.)

The sedentary life of the pregnant woman and the encroachment of the enlarging pregnant uterus upon the liver and its biliary passages favor bile stasis. The normal obstetric patient eliminates less, during the entire period of gestation, than the normal non-pregnant woman.

There is no well recognized line of demarcation between normal and pathologic pregnancy. During pregnancy, the foetal metabolism throws extra work upon the maternal liver; this may determine a temporary impairment of function, an hepatic insufficiency, evidenced by urobilinuria, alimentary glycosuria, moderate icterus, etc. This added stress also predisposes the liver to local changes, evidenced by "the liver of pregnancy," icterus gravidarum, acute yellow atrophy of the liver, etc. The factors enumerated above, taken in connection with the fact that the bile and blood of pregnant women contain more cholesterin than the bile and blood of men or non-pregnant women, explain in part the greater frequency of gall-stones in child-bearing women, explain in part the undeniable etiological influence of pregnancy in gall-stones formation.

Pathology.

One, two, three, or more biliary calculi may be present in the same patient. From a pregnant patient, Moulden removed 17 biliary calculi, Bosse 26, Graham 80 odd, Roith 84, Finkelstone 86, Brothers 250. In reporting his case, Davis says the calculi were "too numerous to count."

Gall-stones vary in volume, in shape, in location. Bishop says that in his case, the calculi were "like fig-seeds"; Mack, that they were "pea-shaped"; Barillon, "mulberry shaped"; Peterson, "faceted." In Rissmann's case, the calculus was large, long and elliptical; in Roith's, pigeon egg sized. In many of the cases, where numerous, the calculi were pea-sized.

Gall-stones usually develop in the gall-bladder, rarely in any other portion of the biliary tract. In their wandering, they may lodge in the hepatic duct, in the cystic duct; "Seventeen stones were scooped out of the dilated cystic duct,"—(Moulden); (Later Moulden re-operated his patient, opened the duodenum and removed five small stones from the ampulla of Vater.); in the common duct, (Ploger), in the duodenal end of the common duct, including the ampulla of Vater, (Rissmann.) "Autopsy showed stones in hepatic duct and in common duct." (Peterson.) From a VI-para, 2 months pregnant, Bosse removed one gall-stone from the common duct and twenty-five from the gall-bladder.

Stones may precede the presence of inflammatory changes in the gall-bladder, may be associated with and be the cause or effect of inflammation, slight, moderate, or severe. The inflammation may be limited to the gall-bladder, (cholecysti-

tis), to the larger ducts, (cholangitis), it may spread to the finer radicles of the biliary tract, (diffuse cholangitis), or may be diffuse, involving the gall-bladder and the biliary passages. Cholelithiasis may result from a cholecystitis, and, once established, it becomes a factor in the maintenance of the cholecystitis, in the causation of recurrent attacks of cholecystitis. Inflammation of the gall-bladder and bile ducts is acute or chronic, ulcerative, perforative, or adhesive, catarrhal, phlegmonous, suppurative, or gangrenous. It may be limited to the mucous membrane, or involve part, (Davis), or the entire thickness of the gall-bladder wall. In the latter case, adhesions are very liable to form between the gall-bladder and one or more contiguous organs. The exudate accompanying these inflammations is mucous, serous, sero-fibrinous, or purulent, (Graham), in nature. "Gall-bladder in addition to calculi, contained 200 cu. cm. of pus." Moulden. If perforation or rupture of a gall-bladder occur, the stones therein present may escape, either into the peritoneal cavity, or into a mass of adhesions, or into the liver substance.

Graham, operating, for a ruptured gall-bladder, a IV-para, six months pregnant, removed 3 stones from the peritoneal cavity, one from the gall-bladder, and two from the cystic duct. Should the inflamed gall-bladder become adherent to a neighboring viscus, the resulting adhesions may cause functional impairment, or an internal fistula may result, through which the gall-stones may escape; if the gall-bladder becomes adherent to the abdominal wall, the inflammation may involve the latter, and lead to the formation of an inflammatory mass, from which, ultimately, an external biliary fistula may result.

Amann's patient, a multipara, in the fifth month of pregnancy, noticed a painful mass, supposedly a fibroma, developing in the hepatic region. She went through a normal labor and three months later this painful tumor mass was successfully removed. It had resulted from a pericholecystic inflammatory process extending to and involving the contiguous abdominal wall and the appendix vermiformis, and it consisted of a ruptured gall-bladder and an extended gall-stone, an appendix, and an inflammatory tissue mass.

Impaction of a stone in the cystic duct may lead to:

1. Dilatation of the gall-bladder, and a resulting: (a) simple hydrops, (the wall of the gall-bladder may be greatly thick-

ened; may be paper-thin, may be almost transparent.) E. Empyema.

2. Acute or chronic cholecystitis; catarrhal, serous, sero-fibrinous, suppurative, gangrenous, phlegmonous, ulcerative, perforative, adhesive.

3. Sclerosis of the gall-bladder; atrophic, hypertrophic.

4. Calcification of the gall-bladder.

If the calculus becomes impacted in the common duct there may result any of the fore-mentioned complications or a distention of the common duct, (Bosse), with or without a cholangitis.

Inflammation in the common duct involving contiguous tissues may produce a thrombo-phlebitis and thus interfere with the circulation through the liver, may extend to the head of the pancreas, changing it to a firm tumor, (Finkelstone.) In his case, Max Neu found the gall-bladder shrunk, the common duct widened and bound down by broad inflammatory adhesions to the duodenum.

Symptoms.

Moynihan, Mayo, and many other careful clinical observers are of the opinion that gall-stones do not exist without producing symptoms; they state that the vague term "indigestion" is used variously by patients to indicate all the several forms of distress which are the forerunners of a crisis of acute biliary colic. Parks claims that the statement "may not cause symptoms" is an admission of inability to recognize incipient symptoms.

Gall-stones produce symptoms by irritation, by migration, by obstruction. Pain and tenderness are most constant and most important symptoms of cholelithiasis, being described by the patients under a variety of terms: (a) discomfort, (Roith); (b) deep soreness, (Villard); (c) biliousness; (d) dyspepsia; (e) gastric distress, (Barillon); (f) neuralgia. The pain, usually limited to the region of the gall-bladder, radiates quite often to the epigastrium, subscapular region, neck, shoulders, arms, etc. "Pain in hepatic region," Bosse. "Pain in right hypochondrium, extending to right shoulder," Davis. "Repeated attacks of pain under the right scapula, extending around to the epigastrium," Bishop. "Lancinating pain in epigastrium radiating to back under the shoulder blade," Moulden. "Sudden attack of pain in region of navel," Roith. "Pain in right hypochondrium, radiating to shoulder and to shoulder and to back," Villard.

What causes this pain? Various factors, chief among which are: (a) the calculi themselves; (b) the inflammation

present in the gall-bladder and in the biliary tracts; (c) adhesions of inflammatory origin binding the gall-bladder, cystic or common duct to adjacent organs. These adhesions can also determine severe functional disturbances of stomach and intestines.

"The most characteristic and constant of gall-bladder hypersensitiveness is the inability of the patient to take a full inspiration when the physician's fingers are hooked up deep beneath the right costal arch below the hepatic margin. The diaphragm forces the liver down until the sensitive gall-bladder reaches the examining fingers, when the inspiration suddenly ceases as though it had been shut off. I have never found this sign absent in a case of calculus or in infectious cases of gall-bladder disease."—Murphy.

The localized tenderness and the rigidity of the abdominal wall may be so marked that satisfactory palpation is difficult, impossible. Other factors, thick abdominal wall, meteorism, deep seated location of the gall-bladder, may prevent the detection of the latter. In a few cases, however, a gall-bladder distended by calculi (Peterson, Roith), or by fluid, mucous, purulent, etc., in nature, or by both calculi and fluid, (Villard), can easily be mapped out. A gall-bladder contracted by inflammation does not give rise to palpable tumor.

Jaundice.

In the diagnosis of gall-stone disease, too much significance has been attached to the symptom jaundice. It is an important sign, but is not to be considered essential to diagnosis; like hemorrhage in duodenal ulcer, it ought not to be waited for. Jaundice may not occur at all, (Heineck, Finkelstone), it may be inconspicuous, it may be late, it may be inconstant. In some cases each attack of gall-stone colic is followed by transient jaundice. (Bishop). The presence of jaundice was definitely recorded in twenty of our thirty cases. The jaundice was accompanied by its usual concomitant manifestations, digestive disturbances, (Villard), beer-brown urine, (Bosse, Davis, etc.), clay-colored stools. (Ploger, Rissman, etc.).

In diseases of the biliary passages, icterus is of two forms; it is of inflammatory or of lithogenous origin. The cause of the first is an inflammatory swelling of the mucous membrane of the biliary passages, (Korte, Barillon). In gall-bladder infections, the swelling of the mucous membrane may extend and involve the common and hepatic ducts and thereby obstruct the bile flow. The me-

chanical occlusions, partial or complete, of the common duct by a calculus, causes lithogenous jaundice. Icterus is frequently due to both inflammatory and calculous obstruction.

As long as a calculus remains in the gall-bladder, or in the cystic duct, jaundice is not likely to appear. In eleven of the cases in which jaundice was observed, there was present, with or without other calculi, a common duct stone. (Bosse 3 cases, Heineck, Mack, 2, Ploger, issmann, M'Nee, Roith, 2 cases). In a lesser number of cases, the provocative cause was the compression of the common duct or of the extra-hepatic part of the hepatic duct by a large stone in the cystic duct, by swollen lymph glands, by inflammatory exudates, by adhesions compressing or kinking the ducts, etc.

Colic.

As stated before, gall-stones cause pain through the irritation, infection, and inflammation that result from their impaction in the neck of the gall-bladder or in any part of the bile-ducts. They also cause a characteristic lancinating pain, agonizing in nature, by meandering through the bile ducts for a shorter or longer distance and setting up a spasm of the muscular wall behind the stone. This latter pain is intense, is designated as biliary colic, and is usually accompanied by chills, frequent vomiting, white lard-like stools, and bile-stained urine.

Gall-stone colic can be caused by: (1) an adherent, inflamed gall-bladder containing calculi, (Finkelstone), or having contained calculi; (2) an inflamed gall-bladder distended by fluid or stones, its cystic duct being occluded by inflammation or by a calculus, (Barillon), or calculi; (3) the entrance into, or attempted passage through some part of the ducts of a calculus, altered bile, mucous or other irritating foreign body; (4) the transit of a stone through the bile-passages; (5) impaction of a stone in a dilated inflamed common duct or in any of its tributaries. The cases with stone in the common duct (Bosse, two cases, Ploger, Rissman). All gave a history of biliary colic.

Diagnosis.

If the symptoms are typical, the diagnosis of gall-stone disease is easy. In addition to recognizing the condition of cholelithiasis, the surgeon should, if possible, determine the exact location of the calculi and note what pathological conditions or changes may be present. Digestive disturbances are undoubtedly the cause of most failures to recognize early gall-bladder symptoms. Cholecystitis or

cholelithiasis, owing to their reflex symptoms, are often mistaken for diseases of the stomach.

By keeping in mind that much of the dyspepsia of pregnancy is from unrecognized gall-stone disease, and that gastric disturbances in pregnancy should receive careful consideration and not be regarded simply as concomitant features of the pregnant state, many diagnostic errors will be avoided. The discovery of calculi in the feces is evidence of their previous existence. It is not proof that any remain. X-ray pictures taken and interpreted by expert roentgenologists are of paramount importance in the diagnosis of biliary, renal or uterine calculi. The absence of any roentgenographic shadow does not prove the absence of gall-stones. "X-ray revealed outline of gall-bladder filled with stones."—Peterson.

Things of importance to arrive at a diagnosis are: 1. An exact history, including the record of previous attacks of hepatic colic; "Previous attacks of biliary colic"—Rissmann, Ploger. "Gave a history of having had similar attacks during her previous pregnancies"—Davis. "Previous attacks biliary colic. Three years ago, first attack of pain in hepatic region. Since then, recurrent attacks"—Bosse. 2. The location of the tenderness and pain and the nature and radiating character of the latter. 3. A thorough examination including a careful inspection and palpation of the abdomen, especially of the hypochondriac region. 4. The exclusion of such pathological conditions as simulate gall-stone disease; lead colic, renal colic, duodenal ulcer, Nephrolithiasis, chronic appendicitis, movable kidney, infection of the genital tract. Cholecystitis is frequently diagnosed appendicitis and vice versa. Gall-stone disease and appendicitis are frequently present in the same patient. Cholelithiasis may co-exist with other pathological states.

Treatment.

In cholelithiasis, two urgent indications are present: 1. The removal of the calculus or calculi present in the gall-bladder or ducts. 2. The cure of the inflamed condition of the bile tracts. It is agreed that gall-stones should be removed. No one nowadays treats a vesical calculus by other procedures than operation. The spontaneous passage of a calculus through the intestine may bring about a cure but other calculi usually remain in the gall-bladder and any one of them may set up an inflammatory attack. In gall-stone disease, medical treatment is purely prophylactic, merely palliative. It is

not curative. Moynihan says, "I hold that once a diagnosis has been made, operation is always indicated unless there are grave reasons forbidding resort to surgery. Reasons should not be asked to support a plea for operation, but to justify any other course than this."

The earlier the patients are operated, the more prompt the relief; the more numerous the complete recoveries. With advancing pregnancy, the technical difficulties incident to operations on the gall-bladder and bile ducts increase. In these cases, we never use chloroform as a general anaesthetic; we are afraid of its action on the liver cells. We have been well pleased with the use of hard round cushion placed transversely beneath the dorso-lumbar region. One of three operations, choledochotomy, cholecystostomy, or cholecystectomy is usually performed, the type of operation selected depending, in the individual case, upon the location of the calculi and upon the nature of the associated complications. In the extraction of calculi from the bile ducts, injury of the duct and wall should be avoided. Rather than risk this, the incision in the duct should be prolonged.

If the calculus or calculi are in the hepatic or common bile duct, their removal is effected by incising the common duct; drainage is instituted through this incision. (Hepatic drainage.) Recovery followed in the three cases, (Bosse two, Ploger one), in which this was done. Rissmann successfully removed a calculus from the duodenal end of the common duct by incising the anterior and posterior duodenal wall. In the cases in which stones were present in the gall-bladder and in the common duct, the performance of a cholecystostomy and a choledochotomy at one sitting, plus the institution of hepatic drainage gave satisfactory results. Bosse, Mack, Neu, etc. Roith, in a case in which stones were present in the common duct, removed the gall-bladder, then incised the common duct and drained through the latter. Recovery. Davis, in a patient seven months pregnant, performed a cholecystectomy. Forty-five days later, the uterus was dilated manually and a premature fetus was extracted. In all of the other cases, a cholecystostomy was performed. Finkelstone in his case did a cholecystostomy; one year later he performed a cholecystectomy. In some cases, owing to the co-existence of other pathological states, additional operative work was done. There were two deaths, (Graham, Peterson), in the series of cases under consideration. In

Graham's case, the patient, at time of operation, had a general peritonitis from her ruptured gal-bladder. In Peterson's case, there was considerable blood oozing, (the coagulation time of the blood was seven minutes), and there developed an acute post-operative suppression of urine. In those cases of gall-stone disease in which other pathological states were present, appropriate additional operations were performed. Erdmann, in his case, removed 205 gall-stones, excised one inch of the left tube to induce sterility, and did a right salpingo-oophorectomy for an existing right tubal gestation.

There is a wide difference of opinion as to which operation, cholecystostomy or cholecystectomy, is indicated in gall-stone disease. Some operators almost invariably perform a cholecystostomy; others equally competent believe that cholecystectomy is the most universally applicable operation for the cure of cholelithiasis. Others do as Kummel, who says, "We remove the gall-bladder when we must, we save it when we can." It is well to select the operation which can be performed in the shortest possible time consistent with the existing conditions of the biliary passages. After cholecystectomy, redrainage of the biliary passages may prove extremely difficult and dangerous. The advocates of cholecystectomy claim that the removal of the organ takes away the possibility of stones being left behind, being reformed, that it removes an inflamed organ.

It is agreed that cholecystectomy is attended with more technical difficulties than cholecystostomy. It requires greater care to avoid injury to the bowels, vessels and main bile ducts. It is wiser to choose the safe operation until the technique of the more complicated one has been mastered.

Cholecystostomy is the operation of election:

1. Whenever the patient's condition is so bad that the difficulties attending a cholecystectomy render its performance unsafe.

2. When the gall-bladder is not seriously damaged and when the cystic duct is not ulcerated or narrowed by stricture. It is believed that the gal-bladder has some other function than that of a mere receptacle of bile.

3. When the common duct is strictured.

4. If jaundice and pancreatitis complicate the gall-stone disease.

Cholecystectomy is indicated:

1. For very thick, acutely inflamed, or

gangrenous gall-bladders in which a stone is impacted in the cystic duct.

2. For chronically thickened gall-bladders. A thick walled gall-bladder which has become functionless should always be removed. When the gall-bladder becomes thickened and hardened from long continued inflammation, it is manifestly impossible that it should dilate no matter what obstruction there may be in the common duct.

3. For large gall-bladders distended with clear fluid and resulting from the impaction of a stone in the cystic duct.

4. For the "strawberry" gall-bladder (chronic thickening with ulceration.)

5. For a calculous gall-bladder adherent to the stomach, intestine, or omentum.

6. When the walls of the gall-bladder are so modified by disease that neither the storage nor the expulsion of bile is possible.

Summary.

1. Gall-stone disease occurs with far greater frequency in women than in men; with far greater frequency in women that have borne children than in women that have remained sterile. Its period of greatest incidence is the child-bearing period.

2. Gall-stone disease, alone or associated with one or more other related or non-related pathological states, not uncommonly complicates a pregnancy otherwise normal or abnormal.

3. The first manifestations of cholelithiasis may date from the existing gestation or from a previous pregnancy; may precede, coincide with or follow an abortion or premature labor; accidental or induced.

4. All conditions that are associated with, that favor or cause: (a) bile stasis; (b) inflammatory or degenerative changes involving the gall-bladder or bile tracts; (c) pathological alterations in the composition of the bile, such as hypercholesterinaemia, etc., predispose to gall-stone disease.

5. Pregnancy is an important etiological factor in the causation of cholelithiasis.

6. The pathology of gall-stone disease complicating pregnancy is the pathology of gall-stone disease occurring in the non-pregnant. There may be present: (a) an inflammation of the gall-bladder or bile ducts in which one, two, or many calculi are lodged, or impacted; (b) a distention of the gall-bladder or bile ducts by mucous, pus, or calculi; (c) a pericholecystic inflammation, calculus in origin,

leading to adhesion formation, to fistula formation, etc., and corresponding disturbances of function; (d) changes in the liver; (e) changes in the pancreas.

7. Some of the symptoms of gall-stone disease are due to the irritation inherent to the presence of gall-stones, to their migration through, or impaction in the bile ducts or neck of the gall-bladder. Other symptoms are due to the concomitant inflammation of the gall-bladder, bile ducts and neighboring organs, causative of or resulting from the presence of calculi.

8. Rupture of a gall-bladder distended by cauli, by fluid, mucous or purulent in nature, can occur during gestation or during or immediately after labor.

9. In the differential diagnosis of this condition one should bear in mind:

(a) That not infrequently gall-stone disease originates during or may complicate pregnancy.

(b) That cholelithiasis and cholecystitis owing to their reflex symptoms are often mistaken for gastric disease.

(c) That appendicitis and gall-stone disease frequently co-exist.

(d) That digestive disturbances associated with acute pain and tenderness in the right hypochondriac region, with or without jaundice, with or without symptoms of biliary colic are in themselves ample justification for operative exploration of the gall-bladder and ducts.

10. Cholelithiasis is a surgical disease; it calls for operative relief. Medicinal measures in this disease are merely palliative; appropriate surgical measures are curative.

11. Gall-stone disease in itself is never an indication for the artificial termination of pregnancy.

12. Whenever, for some cause or other, the abdomen is opened, in women of the child-bearing age or past the child-bearing period, the gall-bladder and larger bile ducts should be examined if it can be done: (a) without or with only slight traumatizing of the tissues; (b) without exposing the patient to too much additional risk; (c) without contaminating clean peritoneum. Should the patient give a history of chronic digestive disturbances, the indication is absolute.

13. Women exposed to pregnancy, suffering from calculous cholecystitis or any other form of gall-stone disease, should be operated, the calculi removed, and the gall-bladder drained.

14. Pregnancy does not contra-indicate operations upon the gall-bladder or bile tracts. Peterson reported only three

miscarriages in 23 reported operated cases. In only one (Roith) of the cases which we considered, did abortion follow the operation.

15. It has been repeatedly demonstrated that the operative relief and cure of cholelithiasis does not unfavorably influence gestation, does not unfavorably influence parturition. Icterus, whether acute or chronic, is a constant menace to the foetus.

16. Early operation is now, in proper hands, a safe procedure. It is an effectual cure of the symptoms produced by gall-stones; it has a low mortality and guarantees against serious complications in the future.

17. Choleldystostomy, cholecystectomy, and choledochotomy have been successfully performed upon pregnant women for the relief of gall-stones. After these operations, drainage is to be employed until the bile ceases to flow spontaneously through the wound, until complete subsidence of whatever degree of cholangitis existed.

18. The prognosis of operative intervention is not unfavorably influenced by the existence of pregnancy.

19. In persistent gall-bladder disease, trouble changes in the urine manifested by the presence of casts and albumen are not uncommon and are not necessarily a bar to operative interference.

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ANTO-SERUM IN ARTHRITIS AS USED BY THE AUTHOR.

By Dr. William R. Barron, Columbia, S. C.

The production of Antitoxic Sera was made possible by the discovery of Roux and Yersin in 1889, that the injury caused by the infection with the diphtheria bacillus was chiefly due to a soluble toxin which the bacillus produced in cultures as well as in the animal body.

Antibacterial sera have been placed on an approved basis by Flexner in his work in giving us Antimeningococcus serum in 1906.

The antibodies in antitoxic sera are chiefly antitoxin or toxin neutralizers.

The antibodies in antibacterial sera consists of bacteriolysins, agglutinins, precipitins and opsonins, all of which act directly upon bacteria and aid in destroying them and their intracellular products.

In 1903 Wright and Douglas pointed to the fact that there are in blood sera substances they termed opsonins, which so affect bacteria that they are more easily taken up and disposed of by the leukocytes.

The technique of one method of preparing and using Anto-Serum, and the one used by my partner and co-worker, Dr. I. Schayer, in the treatment of skin diseases and by me for arthritis, is as follows:

Method of obtaining blood is much the same as that pursued in complement fixation tests and blood cultures, except that a much larger quantity is necessary. A Luer needle of not less than 20 caliber is attached by means of an adaptor to a specially devised pipette of at least 50 c. c. capacity. The other end of the pipette is drawn down to fit a soft rubber tube about a foot long leading to mouth of operator. A convenient vein in the forearm is selected and prepared, the needle inserted and blood is drawn by gentle suction until the pipette is nearly full. The adaptor with needle is removed and blood is allowed to flow into a 50 c. c. centrifuge tube. Blood in centrifuge tube is protected by several layers of small squares of steril gauze held over mouth

by means of small rubber band. Tube is counterbalanced and placed in centrifuge where it remains until cells are driven to bottom. It is then allowed to stand for about thirty minutes for clot to form. Clot in forming adheres to walls of the tube and must be released by means of a small glass tube or rod passed round between clot and walls. The tube is replaced in centrifuge and clot forced to bottom with cellular elements leaving a layer of about 20 c. c. of clear serum above. A different vein from the one from which blood was drawn is usually selected and the serum re-injected gently from a 20 c. c. Luer syringe. It is needless to say all ordinary precautions to avoid infection and contamination are observed throughout the operation. We make the pipettes from ordinary 25 mm. glass tubing. They are not listed, but could no doubt be obtained from instrument dealers. The end of pipettes to which rubber tube is attached is protected by a cotton plug, wrapped in tissue paper, sterilized by dry heat and kept on hand ready for instant use. Tubes are also wrapped in tissue paper, in addition to being plugged before sterilizing in the same way. The ordinary small laboratory centrifuge is, of course, inadequate for this work. We use one made by the International Instrument Company for this work, and for all other purposes for which a centrifuge is required in general laboratory work.

A point of great importance is to find the foci of infection and remove it, if patients are to be permanently relieved of any arthritis.

The usual interval between the doses of this anto-serum has been five days in the beginning of treatment and increased as relief and symptoms indicated. Some of my cases were relieved of all pain in two doses; the swelling, pain and inflammation in all but one case, so far, were relieved in four to six weeks. This one case failing to get much relief earlier was because of his continued dissipations, but after fourteen doses he was cured.

My eight years' experience with gonorrheal arthritis and its slow response to all previous treatment including vaccine, therapy and antigonococcic serum, which heretofore yielded me best results, and my deep sympathy and earnest desire to aid these sufferers, led me to seek some new mode of therapy to help relieve them, hence my use of anto-serum. All the cases of arthritis thus far treated by me with anto-serum have been of Neisserian infection.

I think that good results might attain in any bacterial arthritis with this mode of therapy.

You will want to know, as I do, why does this simple extraction of blood and the re-injection of its serum be of benefit in Neisserian arthritis.

Conclusions Drawn.

It has been proven that the loss of blood stimulates the formation of antibodies.

We are extracting in the patient's blood serum opsinins and antibodies, probably in a more concentrated and easily utilized form.

Bacteria must be opsonically prepared for proper phagocytosis to occur.

My co-worker, Dr. Schayer, suggests that there is probably some change brought about in the protein constituent of anto-serum; he thinks that while this serum is being drawn and prepared, thus exposed to light and air, an excess of oxygen is taken up.

This rapid and permanent relief afforded these sufferers has prompted me to present this subject to the profession.

Chemical Food is a mixture of Phosphoric Acid and Phosphates, the value of which physicians seem to have lost sight of to some extent in the past few years. The Robinson-Pettet Co., incorporated, to whose advertisement (on page 14) we refer our readers, have placed upon the market a much improved form of this compound, "Robinson's Phosphoric Elixir." Its superiority consists in its uniform composition and high degree of palatability.

With all of the practice that the general man has, the most fascinating to me is the work of obstetrics, and to my mind the one branch of medical science that requires special study and preparation. True any one with a very limited knowledge can take care of a perfectly normal case, but when the abnormal cases come, it is then that the ingenuity, foresight, judgment, commonsense and skill is required of the best trained specialist.

Being a general practitioner, I feel like I have a perfect right to say what should be demanded of every practitioner for this important work. It is not enough that he know how to conduct a normal case of labor to a safe termination but that he should be able to recognize the many dangerous and abnormal conditions that will arise and conduct them to a safe conclusion.

ATTITUDE OF THE CLERGY AND THE PHYSICIANS IN REGARD TO THE INFLUENZA QUESTION, CLOSING CHURCHES, ETC.

By George H. Tichenor, Jr., A. B., M. D., New Orleans, La.

For the first time in the two hundred years of the religious life of New Orleans, the churches were ordered closed during the influenza epidemic. It was natural that some of the clergy should object as there had never been a similar step taken before during various epidemics that have afflicted the State and the clergy (as was mentioned at the time of closing the churches), were rendering valuable aid to the Red Cross and various hospital and field services among the sick and wounded in blood soaked Europe at present, naturally all sides of the question became an issue. This issue must sooner or later assume a definite understanding and for that reason I beg the pardon of my professional reader, if I bore them with a few time honored academic questions in reply to the clergy and the "Christian Scientist." I do not believe, however, that there existed in New Orleans any difference of opinion between the majority of the members of both callings in regard to the question, but there was indignation shown on the part of many. The quarantine definition of a crowd was explained to mean proximity according to the regulations of some places in other states.

The medical profession is indebted to the clergy for its repeated efforts for better social conditions. Poorly paid labor, an underfed population, over-worked and unsanitarily housed is the basis of our unusual death rate from a otherwise simple and easily combated disease—Influenza (Spanish), should have been called Profiteering Influenza.

The value of some mental suggestion as an adjunct in the treatment of any disease has never been denied by recognized scientists, but that it alone is all sufficient to prevent bodily decay and will prevent germs from propagating on favorable soil (unhealthy bodies), is as logical as planting corn under favorable conditions and praying for it not to grow. Nor does mere solicitation change the laws of God, but in council and earnest prayer we are able to comprehend the will of God (laws of nature). A ball tossed in the air will fall according to the law of gravity, but all the prayers in the world will not cause

God to change His immutable laws. To presume that God changes the laws of nature (his regulations) at the request of man, is to assume that He is unjust, plays favorites, in that He exempts malfactors from punishment for violation and is not the father of all mankind.

There is every reason to believe that all mental states have their concomitants in activities of the brain. "A merry heart doeth good like a medicine; but a broken spirit drieth the bones." Prov. Chap. 17, v. 22, is a precept by the Great Physician that scientists today have reorganized and apply. It is easily demonstrable that no muscle ever contracts at all except under direction of the messenger sent to it from the central nervous apparatus in the brain, or the accessory apparatus in the spinal cord. "The burnt child dreads the fire" because the brain cells register permanent records of the burning; there has been alterations in the plastic material of the brain cells which are not easily healed.

In Johns Hopkins hospital no patient is conscious when she is delivered of a child. Why? for the same reason, the avoidance of the memory picture—plastic material alterations in the brain. The eminent physiologist, Magendie, also illustrates this rule by the following illustration. A man on trying to hook up a heavy piece of meat above his head, slipped, and the sharp hook penetrated his arm so that he himself was suspended. On being examined, he was pale, almost pulseless, and expressed himself as suffering acute agony. The arm could not be moved without causing excessive pain and in cutting off the sleeve he frequently cried out; yet, when the arm was exposed it was found quite uninjured, the hook having only traversed the sleeve of the coat. The sensation here was perfectly real, but originated in a change of the brain and nerves instead of the external senses. It has been proven that the virus of a snake is more readily disseminated by fear and likewise germ invasion favored by some emotion.

Therefore, the medical profession has always found the quieting and hopeful influences of religion an essential aid to the recovery of the afflicted and in our institutions and during epidemics the clergy are as essential as the doctor and nurse.

Absolute quarantine is impossible, this would mean complete isolation of the patient—therefore sanitarians adopt reasonable regulations which will not be a burden to the public and such as will not be

strictly, as our legal friends term it, "class legislation."

I believe if the profession had adopted years ago some simple illustrations as given above in an effort to counteract the effects of propaganda usually read by the neurotic and impressionable portion of the public these peoples neurasthenic states could have been properly treated. The idea of the profession that the public is gifted with ordinary common sense is a facacy. Statistics show that even some of the old highly intellectual sections of our country, such as Massachusetts, is becoming illiterate owing to our economic system. Specialization has been encouraged to the extent of almost entirely excluding "general culture." Our age has produced no great philosopher.

THE OSTEOPATH'S BOAST.

By Douglas Graham, M. D., Boston, Mass.

"So I prophesied as I was commanded; and as I prophesied there was a noise, and behold a shaking, and the bones came together, bone to his bone."—Ezekiel 37-7.

When God made man, he gave him bone
For the Osteopath to work upon;
He gave him nerve and he gave him muscle

That he might surely stand the tussle
O getting well.

For no more pain shall you endure,
For there's nothing I can't cure,
For I am an Osteopath!
Oh! I am an Osteopath!

Mankind has many ills,
For which the doctor's pills
Do naught but make him worse,
And decrease the family purse,

And all to no purpose;
But no more pain shall you endure,
For there's nothing I can't cure,
For I am an Osteopath!
Oh! I am an Osteopath!

The spinal column is the place
That raises hell with the human race,
For the nerves get caught in the bones
that slip,

And will not let go their bull dog grip
Until we put them back again.

But no more pain shall you endure,
For there's nothing I can't cure,
For I am an Osteopath!
Oh! I am an Osteopath!

No masseurs nor masseuses we
For they do naught but rub and patter!
While we take the pressure off the nerves,

And thus get at the root of the matter,

And cure the patients all.
But no more pain shall you endure,
For there's nothing I can't cure,
For I am an Osteopath!
Oh! I am an Osteopath!

The doctors do not love us good,
But call us a Satanic brood,
And wish us off from this great earth
For we just ruin all their mirth
And jolly fun.

But no more pain shall you endure,
For there's nothing I can't cure,
For I am an Osteopath!
Oh! I am an Osteopath!

THE OSTEOPATH'S LAMENT.

By Douglas Graham, M. D., Boston, Mass.

O Lord, forgive us for our sin,
For surely we've been taken in
By that Great Mogul of the woolley West
Whose name befits him when at rest.
The mighty Still.

Of English he knew very little,
Of French and German not a whittle;
Of Latin and Greek he never heard
Or he would ne'er have cribbed the word
That has befooled us all:
Osteopathy—disease of bone—
For misuse of this we can't atone;
It may be used for disease,
But ne'er for any treatment, please.

Alas! Alas! it is not true
That what we thought our art is new;
It has been known for ages past,
From Adam down to the very last.
Hippocrates knew of its virtues sure
And with it did work many a cure;
Anatrispis called it he,
Which just puts us right up a tree,
It is an oak where acorns grow,
And they press hard upon our toe,
For our feet are soft and tender yet
And our shoes are not a very good fit.

Galen of this art did write well
And Celsus much did also tell;
Oribasius much had to say
And so did old Ambroise Pare.
Great Caesar was in this way cured
Of what by others was endured
And still is at the present day
A bad sort of "Neuralajay."
In later times there's many a man
Who has won distinction with his clan
By advocating some new name
For something old to spread his fame;
But this small grace is not for us
And that is why we make a fuss.

In good old Scotland's isle
 There lived the Duke of Argyle,
 A man of very great merit,
 Who, without claiming any credit,
 Put up posts on his vast estate
 So that his tenants need not wait
 For an Osteopathic D. O.
 To scratch their backs just so
 They suffered so much from the itch,
 It made them as crazy as a witch,
 And as they rubbed their own backs with
 a smile
 Exclaimed, "God bless the Duke of Ar-
 gyle!"

There's Henrik Ling, who had the knack
 Of twisting the bones and putting them
 back;

The "Movement Cure" he called his art,
 And this is not so far apart
 From what we practise nowadays
 And thus get such uncalled-for praise.
 There's Mortimer Granville of London,
 too,

Who makes us feel so very blue,
 He did find out the art so fine
 Of vibrating nerves along the spine,
 Which we did think was all our own;
 And thus the seed for strife is sown.

Old Doc. Munroe of Boston town,
 The nerve adjuster of renown—
 We have but learned of his skill,
 Which makes us feel just almost ill;
 If he were but alive to day
 We would not have a word to say,
 We'd hang our heads for very shame,
 For surely we are much to blame.
 If we had only had horse-sense
 We'd been more on our own defence.
 And looked this matter up before,
 And that is what we now deplore.
 In French and German much we'd find,
 In English, too, unless we're blind;
 It is Massage when rightly done,
 And that just ruins all our fun;
 But this—but this—we cannot do
 And that is why it is not true.

Bowel Inertia.—It is the tendency of
 Prunoids—not only to produce one or
 more movements following each dose, but
 to promote physiologic regularity of the
 bowels—that makes this remedy so much
 superior to "salts," or the laxative meas-
 ures commonly employed. In simple
 words, the use of Prunoids means the ra-
 tional treatment of bowel inertia—the ac-
 tivation of physiologic functions.

THE LOCAL USE OF ACETATE OF ALUMINIUM.

By Southgate Leigh, M. D., F. A. C. S., Surgeon
 in Charge Sarah Leigh Hospital,
 Norfolk, Va.

(The writer has had so many requests
 for copies of this paper, which was pub-
 lished several years ago in this Journal,
 and his stock of reprints having become
 exhausted, he is venturing to request the
 Editor to republish the same with the
 hope that it may be of further use to the
 profession.)

This preparation under the name of
 "Liquor Burow" is so widely employed
 in our section of the country, both by the
 profession and by the laity, that I deem it
 of sufficient importance to bring it before
 the readers of this Journal, and especially
 since it has proved itself to be so efficient
 a remedy. I wish to state distinctly that
 I claim no originality in connection with
 its production, although I did introduce it
 into local use. My attention was first
 called to the remedy several years ago by
 Dr. Lustgarten, of New York, who sug-
 gested its use in connection with several
 cases of acute skin trouble in the wards
 of Mt. Sinai Hospital of that city. Later
 I saw it employed very extensively in the
 Clinic of Prof. Kaposi, attached to the
 General Hospital of Austria. Its prepa-
 ration was so simple and inexpensive,
 while the effects of its use were so mag-
 ical, that I wondered at its not being in
 general use in this country long ago.

The old adage, "nothing new under the
 sun," is markedly exemplified in the case
 of this remedy. Although comparatively
 a new preparation which has come to us
 from the other side of the ocean, where it
 was probably discovered in a scientific
 way, yet on investigation it turns out to
 be practically the same as an old house-
 hold remedy frequently used by the coun-
 try people, the old fashioned "Vinegar
 and Clay."

The usual formula of Liquor Burow is
 as follows:

Acetate of Lead	7 grammes
Sulphate of Alum.....	20 grammes
Distilled Water	220 grammes

This is allowed to stand for two hours.
 Chemical reaction takes place, resulting
 in a solution of the Acetate of Aluminum,
 the Sulphate of Lead being precipitated.
 Thorough filtering is required to get rid
 of the latter. The resulting liquid con-
 tains Sulphate of Alum in addition to the
 Aluminum Acetate. This is wise, as it
 absolutely prevents any of the lead prep-

aration being left in the remedy. I have experimented some with a view of reducing the amount of the Alum, but find it unwise to do so, as any reduction will result in a solution which will show signs of the presence of lead when tested for that metal.

Liquor Burow keeps well and mixes with either hot or cold water to any dilution desired. It has a mild antiseptic power and is moderately astringent.

I know of no single preparation in medicine which has a wider field of usefulness, and which gives, at the same time, more positive results. I hesitate to name the large number of ailments in which I have successfully employed it, for fear that it may be looked upon as a "cure all."

It might be of interest to state in this connection that some years ago one of my patients, on whom I used the preparation in a case of an inflammatory affection of the foot, was so much pleased with its effect that he combined with a local druggist, got hold of the formula in some way, and put the preparation on the market, under the name of "Quratol," a most ingenious title! It is needless to say that this was done against my most earnest protest. He even went so far as to copy, word for word, the directions which I wrote out for use on his foot, and put them on the label of his bottles. I am glad to say that the company which was formed for the manufacture of the medicine came early to grief.

Liquor Burow is useful in nearly all superficial inflammatory conditions, especially of an acute or subacute nature. In all superficial injuries, such as sprains and contusions, it partly or entirely prevents the usual signs of inflammation, which are apt to follow. In many cases it acts as an anodyne by reducing the heat and swelling of the affected part. It may be used on wounds, as well as on the unbroken skin, and especially where there are signs of an acute inflammation, or such a condition is feared. Probably its best effects are shown in acute skin diseases, such as Erythema, Urticaria, Eczema, Erysipelas, etc. In such, if properly employed, it rapidly reduces the pain, heat, redness and swelling. In superficial burns, by applying it promptly, a great deal of the severe resulting dermatitis may be prevented; and even in the later stages of burns, it may be used, from time to time, with much benefit, to reduce the inflammation.

In the troublesome furuncular condition, in which the skin of "run down"

people sometimes gets, Liquor Burow helps us greatly. In some of these cases it aborts threatened suppuration, and even where an abscess, small or large, is inevitable, it reduces the surrounding inflammation, and hastens the pus formation, but localizes it in a smaller area. The greater the amount of local heat, the cooler should be the solution.

In Erysipelas, the most gratifying results are obtained by covering the affected area with several layers of gauze wet in an ice cold solution of Liquor Burow, and keeping the gauze constantly saturated with the cold liquid. No other treatment begins to give such comfort to patient in relieving the pain, burning, and feeling of tenseness, which is usually so distressing. It also checks the spread of the inflammation. In severe cases, especially about the face, it is well to apply a small ice bag over the wet gauze, at its upper edge, near the scalp. In face cases a mask of gauze cut to fit the features is convenient, leaving openings for eyes, nostrils and mouth. The wet gauze must be made to come into direct contact with every part of the affected skin, and may be reinforced by extra pieces as required. The mask ought to be removed at least once every half hour, thoroughly soaked in the cold solution and reapplied. Every few minutes the nurse should add solution to it by means of a small sponge.

About the face Liquor Burow is employed in a dilution of one part to eight or ten parts of water, that strength not being injurious to the eyes. In other parts it is usually best in a strength of one part to four or six parts of water. Simple bathing of the skin with the remedy has but little beneficial effect. It is necessary that the liquid shall be kept almost constantly on the affected parts. In cases like Erysipelas and severe Acute Eczema, it is best to make constant wet applications. Such troublesome treatment is not essential in ordinary cases, changing the application once in a few hours being sufficient. In these cases, in order to prevent evaporation of the liquid, we cover the wet gauze with an impervious protective, such as rubber tissue, oiled silk, or oiled paper, the whole being held on securely by a retaining bandage. The frequency of the re-wetting depends on the severity of the inflammation. In mild cases changing the dressing morning and night, or even once in twenty-four hours, is sufficient, while in the more severe, it is well to re-wet every two or three hours. This frequent adding of fresh solution does not necessitate tak-

ing off the dressing. Fresh liquid may be poured on the gauze by removing the bandage and protective, or in a simpler manner the upper edge of the protective may be raised slightly and the fluid poured in. In using such a wet dressing, it is important, once or twice in each twenty-four hours, to leave the skin exposed to the air for at least a half hour, so that it may get thoroughly dry, and thus prevent a "soggy" condition.

In the acute skin diseases, as soon as the signs of inflammation have fairly well subsided, it is often best to discontinue the Liquor Burow, or to use it at intervals. Then apply it at night, and apply powdered starch and a dry dressing in the day, or even omit the wet dressing altogether for a few days.

In Acne, where it is necessary to open the little furuncles which form in the skin, the application of a wet dressing of Liquor Burow for an hour or two afterwards, takes away all of the irritation produced by that treatment.

In the most troublesome disease of Psoriasis, Liquor Burow is of great help in two classes of cases: first in the acute manifestations of disease; and second, in those cases which come to us covered with masses of tenacious scales. In the latter the wet dressing softens up the crusts and thus permits us to clean them off thoroughly, so as to get our healing ointments at the seat of the disease.

The remedy aids in a similar manner in chronic Eczema where the parts are covered over with hard and tenacious crusts. Ointments and other curative applications do no good in these cases, because they get only at the top of the crusts, and do not reach the real disease. Indeed these crusts and scales often collect and hold the poisonous discharges of the diseased surfaces and are thus made a constant source of irritation. The application of the wet dressing for a few days, gently cleaning off the parts each time the dressing is changed, will usually in a short time put the diseased skin in the best possible condition to receive the good effects of the other healing remedies.

I believe that failure in the treatment of many skin diseases is due often to the improper use of good remedies. So often do we hear of patients getting a "salve" for some skin affection without any directions as to how to use it. An ointment applied to a surface affected with a pustular eczema and covered with "scabs," will do harm instead of good, by still further retaining the purulent dis-

charges. If the "scabs" and discharges are first cleared away by a few days application of the wet dressing, the same ointment may do effective work.

As a rule water is irritating to all eczematous eruptions. Liquor Burow is on the contrary soothing to such conditions, and may be used where it is necessary to bathe the parts affected.

In mild superficial infection of the skin the wet dressing, if applied early enough, will abort suppuration. And if suppuration is inevitable, it will make it more circumscribed by reducing the surrounding inflammation. In infected wounds it allays the neighboring inflammation in a similar manner, and also acts as a mild antiseptic on the purulent discharges.

In sprains and bruises the wet dressing quickly removes the pain, and prevents, to a great extent, the subsequent swelling and inflammation. In a sprain of the ankle, for instance, if the joint is immediately enveloped in a wet dressing of Liquor Burow and kept wet and cool, the result is most gratifying. In from twenty-four to forty-eight hours this application will do its work so well that the joint may be strapped and the patient allowed to go about without discomfort.

In stiff joints where passive motion is necessary to restore their function, the treatment usually produces a painful and inflamed condition for some time afterwards. This may be to a great extent prevented by the prompt application of the wet dressing to be left on for a few hours after each treatment.

I have experimented some little in trying to get up an ointment containing the Acetate of Aluminum, but without sufficiently good results to submit it to the profession. The comparatively recent preparation called "Antiphlogistine," probably owes its fairly good qualities to the Aluminum which it contains.

In conclusion, I would state that Liquor Burow has helped me more in the practice of medicine and surgery than all the other external applications combined, and I can heartily recommend it to the profession for use not only in the diseases mentioned, but also in many others of a similar character.

Gastralgic Attacks—Two teaspoonfuls of Seng shortly after eating, have been found exceedingly effective for preventing gastralgic attacks. The beneficial influence of Seng on the gastric glands is shown by an increase in gastric tone and a markedly lessened nervous irritability.

Building Up After Long Illnesses.

During convalescence from a long illness a requisite is an agent that will improve the quality of the blood-stream and thus aid the ordinary recuperative powers of the run-down system.

Cod liver oil has proven its worth for this purpose, for which reason it is held in high esteem by the profession. The vital powers have been badly depleted during the protracted acuteness of the illness, and the need for a proven replenishing agent is urgent. At the time of making a choice of reconstructives, it must be borne in mind that one must be chosen of definite therapeutic power and which at the same time will not prove objectionable to the patient and become intolerable. If Cord. Ext. Ol. Morrhuae Comp. (Hagee) is the agent chosen, the physician may know that he is employing a preparation of worth and which, owing to its palatability, may be given freely and for long periods without causing the least distress.

As a means of building up the system after a long illness Cord. Ext. Ol. Morrhuae Comp. (Hagee) is of well proven merit and may be fully relied upon.

Some Observations on the Relationship Between Syphilis of the Nervous System and the Psychoses.—Lowrey (Am. J. Insanity) bases his conclusions after a study of eleven cases showing a divergence of the clinical and serological pictures.

1. Of about 2,500 cases examined in three years eleven are sufficiently unusual to be reported on.

2. Of these, four gave the clinical picture of dementia praecox, one of constitutional inferiority, one of imbecility, two organic, and three parietic dementias.

3. In two cases of dementia praecox, the serology of neurosyphilis was found early. In the other two only after many years. In none was it expected. One case has tabetic symptoms, the other no symptoms of neurosyphilis. The case with tabetic symptoms also exhibits catatonic symptoms.

4. These are the only cases of dementia praecox in the hospital showing such serology, though other cases have positive blood tests.

5. One hysterical or constitutionally inferior person developed secondary syphilis five years before death. A year before death, the serology of neurosyphilis was demonstrated. Autopsy confirmed this. No clinical symptoms.

6. An "imbecile" developed general paresis in the hospital. Autopsy and serology typical.

7. An "organic" case without signs of paresis gives the serology of it.

8. A case clinically of Huntington's chorea gives the serology of paresis without clinical signs of it.

9. One case, clinically paresis at first, seems now like dementia praecox, serology positive.

10. One case, clinically paresis, has run an extremely long stationary course. Wassermann negative in blood and fluid, other tests positive.

11. One case clinically and serologically paresis, has as his most prominent symptom, the only one at the present time, auditory hallucinations.

12. We have to with (a) neurosyphilis in unusual causal relations, or (b) coincident psychoses and symptomless neurosyphilis.

13. Diagnoses should be based on both clinical and laboratory findings. The neglect of either may lead to improper results.

The Successful Conservative Treatment of Early Gas Gangrene in Limbs by the Resection of Infected Muscles.—Frankau, Drummond and Neligan (J. Roy. Army M. Corps), state that their experience corroborates the observations to which Cuthbert Wallace first called attention, viz.: (a) that gas gangrene has its initial focus in the injured muscles in all cases; (b) that the infection travels in a longitudinal direction in the muscles and there is little tendency for it to pass from one muscle to the other.

In view of these facts the authors resect the infected areas so as to arrest the infection in the muscle or groups of muscles involved. Resection is contra-indicated if the main blood supply of the limb is cut off. Resection should extend until muscle is reached which has the following characteristics: (1) unchanged color; (2) normal contractility; (3) a good blood supply, as indicated by free bleeding from the cut surface.

The treatment of cases after resection is carried out on the following lines: (1) reduction of dressings to the absolute minimum; (2) constant or intermittent irrigation of the wound by some modification of the Carrel method.

The remainder of the article is devoted to a report of cases illustrating the clinical application of the principles laid down by the authors.

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EDWARD C. REGISTER, M. D., EDITOR
CHARLOTTE, N. C.

THE BACTERIOLOGY OF INFLUENZA.

Dr. Victor C. Vaughan, of Ann Arbor, has an editorial in The Journal of Laboratory and Clinical Medicine on this subject. In as much as he is an authority on this subject we reproduce in part.

In 1892 Doctor R. Pfeiffer announced his discovery of a bacillus which he believed to be the causative agent in epidemic influenza, and this claim seems to have met with ready and general acceptance. Pfeiffer examined sputum brought up from the bronchi. This was spread upon sterile glass plates, and the loop was taken from the purely purulent portion. The best preparations were made by staining with a dilute carbol fuchsin. It was found that the stain penetrates slowly, and the cover-glasses were allowed to float for from five to ten minutes in the solution. Pfeiffer made the following statement:

"In preparations of influenza sputum made under the above described precautions, we found in all recent and complicated cases a single, well-characterized species of bacillus in almost absolutely pure cultures, and always in surprising numbers. The bacilli are situated mostly in the form of nests and swarms in the mucous ground substance of the sputum. They are found also in greater or smaller number in the protoplasm of the pus cells where they are grouped around the nucleus without ever penetrating into the nuclear substance. The influenza bacilli have not quite the transverse diameter of the bacilli of mouse septicemia. Their length, as a rule, is only two or three times their width, though occasionally we discover in the sputum, and sometimes in pure cultures, longer organisms that are to be regarded as filaments. In older pure cultures of from three to four days' duration, very long filaments may occur, but these are abnormal forms, the first signs of beginning involution. The ends of the influenza bacilli are rounded. Very often we found two particularly short bacilli in close apposition. These are forms of division that are apt to be interpreted as diplococci, and undoubtedly have been mistaken for them. The bacilli have no capsules and are non-

motile. They are gram negative, and in faintly stained specimens it is sometimes noticed that the poles are more deeply colored than the middle portion."

Pfeiffer was not able to grow these organisms upon gelatin or agar plates either aerobically or anaerobically, but he did grow them upon media containing blood, and ascertained that hemoglobin is the blood constituent essential to their growth.

Oxyhemoglobin is not essential, and boiling does not lessen the efficiency of the hemoglobin in the culture medium. On blood agar the colonies are minute droplets and when crowded can be seen only with the aid of a lens, but in sparse growths they may be seen by the unaided eye. The colonies have a glassy transparency and under the microscope appear to be without structure. The bacilli are strictly aerobic, and grow quite abundantly in bouillon containing hemoglobin. They do not multiply below 30 deg. or above 43 deg. In drinking water they soon die, and they are very sensitive to drying.

From his experiments Pfeiffer came to the conclusion:

1. Any development outside the normal body, in the ground or in winter is impossible.
2. The spread of the disease through dry sputum can occur only to a limited extent.
3. The contagion, as a rule, is conveyed by the recent, still moist culture from the nasal and bronchial mucous membrane of influenza patients.
4. Kitasato showed that pure cultures may be obtained directly from the sputum. The patient coughs the bronchial sputum into a double sterile dish. The sputum is thoroughly dissected with sterile needles, and during this process of disintegration it is carried through ten successive washings with sterile water. A bit of the washed sputum is examined microscopically and another portion is inoculated on the blood agar.

In uncomplicated influenza Pfeiffer found the bacilli in all cases in pure cultures in the bronchial sputum. When the influenza was engrafted on an existing bronchial affection, or when the influenza was complicated with bronchitis or pneumonia, other organisms were, of course, found in the bronchial sputum. Pfeiffer did not find the organism in the blood. The bacilli may persist in the sputum for months after recovery, and thus the individual may become a chronic carrier and distributor.

Pfeiffer's attempts to transmit the disease to mice, rats, rabbits, guinea pigs, swine, dogs and cats were wholly without result. His experiments with monkeys are worthy of recall at this time. Into the trachea of one of these animals he injected a flake of sputum the size of a pinhead, which had been found to be a pure culture, mixed in 1 c. c. of bouillon. The animal died after indefinite symptoms, and postmortem showed an abscess the size of a walnut at the site of inoculation. The pus of this abscess showed a few intact influenza bacilli and no other bacteria. Three monkeys had similar injections into the lungs through the thoracic walls. Some elevation of temperature took place after from twenty to thirty hours. The fever was remittent and transient. The animals coughed, but showed no typical influenza. Two weeks later they were reinoculated and developed milder symptoms. One was inoculated in the nose and showed a slight fever. Still another received an injection in the trachea and developed a temperature of 39.2 deg. the same day. The next day the temperature began to fall and death resulted within forty-eight hours after inoculation, the temperature reaching 32.2 deg. This was not an infection, but an intoxication.

Rabbits died after a few hours from intravenous injection of the bacilli, but this results from similar treatment with the cellular substance of bacteria, known not to be pathogenic. Kruse made further animal experiments with the same lack of success. Up to the present time all attempts to induce influenza or any other infection in the lower animals with this organism have failed. The cellular substance contains a poison, but so do all proteins. We are compelled to conclude that it has not been proved that the Pfeiffer bacillus is or carries the virus of the disease we know as influenza, but this does not prove that it is the cause.

ADDITIONAL DISEASES TO BE REPORTED TO N. C. STATE BOARD OF HEALTH.

A call session of the North Carolina State Board of Health recently held announces the addition of the following disease to the list of affections necessitating formal report to the board of health: venereal diseases, para-typhoid fever, dysentery, broncho-pneumonia, lobar pneumonia and cholera-infantum.

Typhoid fever as is well known, was already reportable, but para-typhoid was

not, and while probably an infrequent disease in the state, its quasi relation to typhoid, especially in the securing of proper statistics, render such reports necessary. The two types of pneumonia were especially fatal during the recent epidemic of influenza, and their inclusion is reportable diseases, essential to the making of proper mortality reports. Certain types of dysentery are infective, and the reporting of such cases will have a helpful tendency.

Additional plans for enlarging the scope of the board's activities were discussed at the recent session, and it is confidently expected that the North Carolina State Board of Health will continue to assume an active leadership along the various lines calculated to promote public health in every practicable way.

VENEREAL DISEASES REPORTABLE TO BOARD OF HEALTH BY ALL PHYSICIANS IN PRACTICE IN NORTH CAROLINA.

At a special call session of the North Carolina State Board of Health held in Raleigh, November 11, 1918, venereal diseases were made reportable in accordance with a standard public health regulation supported by the federal government and being put in force in the other states of the union at this time.

The regulations relative to the reporting of venereal disorders will appeal to physicians of the state when carefully studied embodying as they do certain generic principles valuable alike to society, as well as to the physicians themselves. Such patients will have their reports made by the physician's serial number, he alone having the name of the patient, but he will have helpful literature at hand for the use of his patient who will also be expected to report in person to the physician at specified (by him) later date. Failing to report for further treatment on the part of the patient, will make it necessary for the physician to send in the patient's name to the board of health when action will be taken at once to locate the venereal disease infected patient. By this plan the interests of patient, physician, and state, are fully protected.

The federal authorities have designated Dr. James A. Keiger of the U. S. Public Health Service, as director of the newly created Bureau of Social Hygiene which will be operated from Raleigh, N. C., as a department of the State Board of Health, thereby making available a net

federal appropriation of \$24,000.00 which will be expended under the direction of the bureau in an effort to educate the people fully to the dangers of venereal diseases as well as to cure as many cases as possible during the period of the expending of the federal appropriation.

The government work in the army and in the five-mile zone of the army cantonments in this and other states has emphasized both the importance of this work and the practicability of accomplishing much in lessening the ravages of venereal infections.

Not a few years ago, public and professional sentiment alike, would have resented the reporting of venereal disease cases, but the world moves rapidly, and today all intelligent thinking people who realize the hidden dangers necessarily incident to such diseases, will readily and heartily approve of the taking of measures calculated to lessen their prevalence. To individual patients seeking cure such reporting involves no hurt; to society at large, if successful, it means much and is directly in line with advanced modern public methods which consistently place the good of society above the whim of the sick or the carelessness of his conduct in his relations to his fellows.

With each passing decade the world continues to progress to a higher standard of both public and private morals, and every effort of our excellent state board of health to better health and morals will be approved by all thoughtful people.

POWERS OF STATE BOARD OF HEALTH AS TO VACCINATION OF PUPILS.

Arkansas gives the state board of health general supervision and control of matters relating to health, requiring it to make a study of the causes and prevention of infectious and communicable diseases, and giving it direction of all matters of quarantine and of all sanitary and quarantine measures for dealing with diseases in the state. The laws in that state authorizes it to make all necessary and reasonable rules and regulations of a general nature for the protection of infectious and contagious diseases. The law provides a punishment for violation of the board's rules. The Arkansas Supreme Court holds that the board was authorized to adopt and promulgate a rule, requiring a certificate of successful or recent vaccination or immunity from smallpox as a condition to attendance up-

on the schools of the state. The courts of the state will judicially notice such a rule, and it need not be proven. It in no way infringes upon the constitutional right to attend the schools of the state, nor upon the management and control of the schools by school boards or directors. The statute is held to be merely the delegation of the power to determine some fact or state of things upon which the law makes, or intends to make, its own action depend, and hence is not invalid as a delegation of the lawmaking power. It is held that in view of the fact that smallpox was prevalent in the state at the time the rule was not unreasonable and unnecessary even though the school district concerned in this particular case was isolated and smallpox was not prevalent or threatened therein. Every presumption is indulged in favor of the necessity of such a rule, and courts will not interfere with acts of health authorities unless it is apparent that the rule is arbitrary. The rule is not in conflict with the Compulsory Education Act requiring every parent, guardian, etc., of children between 7 and 15 years, inclusive, to send them to a public, private, or parochial school, under penalty, as the net result of the acts, when read together, is to enforce vaccination by a penalty only.

Physicians generally, recognize the value of ipecac in many winter ailments. Ipecac is a drug that has long been favorably known and highly regarded, but due to its nauseating properties its field of usefulness has been restricted.

With the advent of Alcresta Tablets of Ipecac, made by Eli Lilly & Company of Indianapolis, what may be said to be a renaissance in ipecac therapy has taken place. By means of these uncoated, rapidly disintegrating tablets it is possible to administer, orally, large doses of ipecac without nausea. Each tablet represents the alkaloids from ten grains of the drug and the nature of the compound with hydrated aluminum silicate is such that the alkaloids are not liberated in the acid secretions of the stomach, but are promptly released on coming in contact with the alkaline intestinal secretions. Those physicians who, on account of its nauseating properties, have not been prescribing liberal doses of ipecac in such ailments as acute tonsillitis, acute bronchitis, bronchial asthma, intestinal stasis and other intestinal infections now find the means at hand in Alcresta Tablets of Ipecac.

EDITORIAL NEWS ITEMS

Dr. S. W. Battle of Asheville, N. C., was recently appointed a member of the Concil of National Defence. He is located at Washington, D. C.

Dr. Charles O'H. Laughinghouse of Greenville, N. C., is now commanding officer in the Base Hospital Unit No. 85 located in France. He was recently promoted to the rank of Lieutenant-Colonel. Dr. Laughinghouse entered the service with the rank of Major.

Dr. Joseph L. McCabe, formerly of Elizabeth City, N. C., now Lieutenant in the Medical Reserve Corps of the United States Army, was recently married to Miss Edmonia Johnston Beattle of Richmond, Va.

Dr. T. Brantley Henderson, formerly of Henderson, N. C., has moved to Richmond, Va., and is located in the Professional Building. He will limit his practice to diseases of the Eye, Ear, Nose and Throat.

Dr. Henderson is a well equipped man and no doubt will do well in Richmond, having graduated at the Medical College of Virginia in 1906. He joined the N. C. Medical Society in 1915.

Dr. Edward Jenner Wood, Wilmington, N. C., has been commissioned Lieutenant Commander in the U. S. Navy and is expecting an order to active service with the U. S. war forces. A gentleman of erudition and much accomplishment should his duties take him from our state would be much missed.

Dr. Alfred P. Upshur of Richmond, Va., has recently been made a fellow of the American College of Surgeons. This is a fine compliment and well merited. Dr. Upshur is a son of John N. Upshur who is one of the most prominent physicians of Richmond, Va.

Dr. Wm. C. Gorgas, who in October retired as surgeon general of the United States army, will resume, as director of yellow fever work for the Rockefeller foundation, the work which he temporarily relinquished when this country entered the war. He will sail shortly for South and Central America to direct operations there.

No More Physicians To Be Commissioned in the Medical Corps.—At ten

o'clock on the morning of November 11, the War Department discontinued the commissioning of physicians in the Medical Corps.

This condition, in all probability, is permanent and no further consideration will be given applicants for a commission in the Medical Corps until further notice.

Dr. Victor Blue has been promoted to the rank of Rear Admiral. He is the brother of Rupert Blue. Dr. Blue was born in Richmond County, North Carolina, December 6th, 1865. Like his brother he has made a reputation. The people throughout this section are very proud of these two very distinguished North Carolina officials.

Dr. Charles E. Walker, of Charlotte, N. C., died November 8th, 1918. Dr. Walker was 51 years old. He graduated from the University of Maryland in 1891 and was licensed to practice in 1891. He joined the State Medical Society in 1894. Dr. Walker was, in all probability, one of the most active practitioners that has ever lived in Charlotte. He was always busy. His relations to his patients were always pleasant and agreeable, he was loved by them. His associates here in the medical profession regarded him as a safe, intelligent practitioner. In other words, he had the confidence and esteem of the entire medical profession in this city.

Dr. Browson Ewing Summers of Richmond, Va., died October 12th of an attack of pneumonia brought about by influenza. Dr. Summers was a lieutenant in the United States navy. He died at the U. S. Marine Corps Hospital at Quantico, Va.

Dr. F. Sherman Echols of Newport News, Va., died October 15th at the Walter Reed Emergency Hospital. The cause of his death was pneumonia. Dr. Echols was 32 years old and was Assistant Surgeon in the U. S. Public Health Service.

In Wilson, N. C., was recently placed a memorial tablet on the wall of the county court house to the memory of Lieut. Robert Anderson the first soldier from that county to fall in France fighting brilliantly at Cantigny. He was the son of Dr. W. S. Anderson of Wilson and a younger brother of the well known Richmond, Va., neurologist, Dr. Paul V. Anderson, formerly of Morganton, and Wilson, N. C.

Dr. T. O. Tate, who practiced medicine for a number of years near Gaffney, S. C., died on November 23rd. Dr. Tate was about 55 years of age, and prior to his death practiced medicine in the Timber Ridge neighborhood. He was a prominent physician and popular professionally.

Among as small batch of nominations sent the Senate by the President the day prior to sailing for Europe was one containing the names of two well known Southern medical gentlemen whose advancement in the "regular" U. S. Army will be read with appreciative interest by many admiring friends of their home section. Col. Walter D. McCaw, U. S. Army, "regular," a native of Virginia, and Maj. General Robert E. Noble of the National Army now in France as Chief Surgeon of the American Expeditionary Forces. Colonel McCaw is one of Virginia's many and fine contributions to the regular army, while the magnificent work of Robert E. Noble, the capable Alabamian who went to college at Raleigh, N. C., at one time, and who created for himself an imperishable laurel in his marshalling of the American medical profession for the present emergency, will always cause those conversant with his great ability and accomplishment, to feel he is worthy of the best that may be accorded him. As one of the few Brigadier Generals of the U. S. Army, with his activity and age, it is merely a probable question of time until General Noble will achieve the highest honor enjoyed by a medical gentleman in the service, that of being Surgeon General for which position he is eminently qualified in every way.

The 23rd annual session of the Seaboard Medical Association was held in Kinston, N. C., December 4-5, 1918, under the presidency of Dr. I. M. Hardy, Kinston, N. C. Dr. Clarence Porter Jones, Newport News, Va., Secretary. A number of excellent papers were read and discussed, the attendance was for a wartime meeting very good indeed, a banquet was held, and a most interesting meeting of this fine organization which includes many of eastern shore of North Carolina and Virginia's best men, was concluded.

The U. S. Authorities are planning an enlargement to the U. S. Marine Hospital at Wilmington, N. C.

Dr. J. Allen Wyeth, of New York, was married for the second time a few days ago. In all probabilities, Dr. Wyeth is one of the greatest surgeons in the United States. He had not, however, been in very active service for the past few years on account of his age, being seventy-three years old. He was married at the Polyclinic Hospital to Miss Marguerite Chalifoux of Boston, Mass., who was formerly dietician of the institution. He was married while he was in bed suffering from sprain of a fractured ankle. We take the following from the "Who's Who in America" concerning Dr. Wyeth:

"Dr. John Allen Wyeth, surgeon, born Marshall County, Ala., May 26th, 1845, Judge Louis and Euphemia (Allan) W. La Grange Military Academy, Ala., private in C. S. A., 15 months prisoner, Camp Morton, Indiana, began study of medicine 1867 M. D., University of Louisville 1869, also ad eundem Bellevue Medical College, 1873, LL. D., University of Alabama, 1903, University of Medicine 1909, Florence N. Dr. J. Marion Simms 1886 Asst. Demonstrator anatomy and surgery 1873-4 prosecutor to chair anatomy and organized and founded Mt. Sinai Hospital First post graduate Medical school in the U. S. the New York Polyclinic Medical School and hospital and is professor of surgery, president faculty. President N. Y. Path. Soc. 1907. Author: Essays on Surgical Anatomy and Surgery, Life of Gen. N. B. Forrest, With Sable and Scalpel, The Autobiography of a soldier and surgeon, 1914, also many medical histories and biographical sketches, etc. Address: 244 Lexington Ave., New York City.

Dr. J. M. Simms, his father-in-law, was one of the most distinguished southern representatives in the medical or surgical profession of New York. We want to congratulate Dr. Wyeth and wish him many years of happiness.

Dr. F. L. Ravenel of Florence, S. C., was married on October 10th to Miss Alice E. LaBruce of Georgetown, S. C.

Dr. Ravenel is a bright young physician and we predict for him a brilliant future.

Polyclinic Hospital Transferred to Columbia University.—At the meeting of the trustees of Columbia University, held on November 4, it was announced that the trustees of the New York Polyclinic Hospital had proposed to transfer the property of that institution to Columbia University, "to be maintained and per-

petuated for the public service and research in medicine and surgery." The trustees of Columbia University, in response to this offer, adopted resolutions receiving with grateful appreciation the proposal of the trustees of the Polyclinic Hospital and appointing a sub-committee to arrange the detailed terms and conditions of accepting the offer. The University will not be able to use the Polyclinic Hospital until after the conclusion of the war, since it is now in the possession of the government and administered as a military hospital.

A farmer residing at South Creek several miles from Washington, N. C., had a most remarkable experience recently. Being under the care of Dr. Joshua Tayloe and seriously ill he was removed to the Washington, N. C., Hospital, where an operation was performed by Dr. D. T. Tayloe, the well known surgeon.

Recovering rapidly the patient desired to commemorate his prompt relief and while in the hospital had purchased and sent to his home in the country an organ which on arrival was supposed to be the box containing the remains of the seriously ill man. The box was interred and a funeral service held over the supposed remains. A few days later the supposed dead man returned to his family and had the organ resurrected.

Recent advices from Washington indicate that the big U. S. Army Hospitals at Camp Greene, Asheville, Azalea and Waynesville, N. C., will each be continued for the care of overseas returning patients for some time to come. This is a wise governmental action as each of these institutions have been exceptionally well conducted, have an able and skilled staff of professional gentlemen and are especially well located climatically speaking.

Dr. B. W. P. Cox, of Goldsboro, N. C., died October 8th. Dr. Cox graduated at the North Carolina Medical College in 1915 and received his license to practice medicine in the same year. Dr. Cox was a young man of splendid ability and was capable of being of great value to his town and community. His death was both sad and untimely.

Dr. R. K. Adams, who is one of the physicians of the State Hospital in Raleigh, was married on November the 19th to Miss Mary Bell King in Charlotte, N.

C. Dr. Adams is one of the most prominent of the younger medical men in this State. He is a bright young man and has married one of the most accomplished young ladies of this community.

The Medical Review of Reviews announces that it has just purchased the third oldest medical journal in America—the Buffalo Medical Journal—founded seventy-four years ago by Dr. Austin Flint, and published regularly ever since.

The Medical Review of Reviews is to absorb the Buffalo Medical Journal, beginning with its January, 1919, issue. This is the third publication which the Review has purchased during the past few years.

The Medical Review of Reviews further announces that it will be greatly increased in size beginning with the January, 1919, issue, but that the subscription price is not to be increased.

The Greenville, South Carolina, Hospital has recently let a contract to erect a central building three stories high with a basement. The building is to be 120x12 feet and will contain about forty rooms. It is to be of a fire proof structure. In addition to good stair ways it will be equipped with elevators. The building will be thoroughly fire proof. The operating rooms will be especially fine and up to date. The building when completed will cost \$125,000.

The War Department at Washington, D. C., has ordered to be erected as soon as possible an addition to the Tuberculosis Sanatorium at Azalea, North Carolina. Plans call for 12 open air wards, 2 officers' wards, 3 infirmary buildings, 2 buildings to accommodate nurses, officers' quarters and two store houses. The cost of this will be \$380,000.

Abuse of Milk in Young Children.—Comby would prohibit the use of more than a pint of milk daily after the completion of the first year of life while during the latter the amount should not exceed a quart daily. To subsist wholly on milk after weaning is to go without sufficient iron. The infants thus fed are anemic, fat, sluggish, constipated—in fact, really subject to a deficiency disease. The latter promptly improve upon fruit juice, purees, eggs, etc. The former alone—grape or orange juice—is sufficient for the purpose.—*La Presse Medicale*.

Miscellaneous.

Injection of Alcohol for the Relief of Causalgia from Gunshot Wounds.—It was the late Weir Mitchell who gave the name "causalgia" to the acute and distressing suffering caused by the injury to the median nerve in the upper extremity, on the internal popliteal nerve of the leg. According to Capt. E. Farquhar Buzzard, in a paper published some time ago in the West London Medical Journal, patients suffering from the median or internal popliteal causalgia may be counted among those who suffer the most distressing results of modern warfare. Moreover, men with such injuries are apt frequently to gain little sympathy, for by nurses and even by medical men, they are regarded as highly neurotic subjects who are too greatly inclined to make the most of their injuries. However, as Buzzard points out, when a large sensory nerve is injured, stimuli of all kinds, physical, psychical, auditory, and visual can give rise to spasms of intolerable pain. This being so, it is obvious that a main object of treatment is to give relief, permanent if possible, at any rate relief from such excruciating agony. The first principle is rest, mental and physical and isolation, when this procedure can be carried out.

The resort to drugs is extraordinarily unsuccessful and is also to be strongly deprecated because of the risk of destroying what little morale the patient may have preserved.

Accordingly Buzzard adopted the following line of treatment. He explains to the patient that the pain is due to a partial injury of a nerve, and that he has some cause of thankfulness that the injury was not worse. Palliative measures, the application of heat or cold or of liniments containing camphor, menthol, chloral hydrate, etc., are used during the day, and at night a sufficient amount of sleep can be secured generally by the use of bromides or other mild hypnotics. But there remains a minority of patients whose suffering is so great and so prolonged that further steps must be taken. With such patients Buzzard has had the most gratifying results from the injection of alcohol into the injured nerve on the proximal side of the injury. A few drops of 80 per cent alcohol in acute cases of the median or popliteal nerves will often altogether relieve the pain. Of course, there is the risk of destroying or greatly impairing nervous function, but in some

cases in which this mode of dealing with the situation was adopted function improved. Also the fact must be taken into consideration that median injuries of any degree of severity are followed rarely by complete recovery of function, and especially when the patient has endured a long period of intense suffering.

Rest after Meals.—Getson, (Medical Record,) believes that the importance of complete and sufficient rest after meals is self-evident, and needs neither argument or emphasis. It is simply a question of health's progression or retrogression, a problem which may finally resolve itself into "to be or not to be." The entire body must either rest during active digestion, so that enough blood, enough energy remain unoccupied and go toward the metabolic engine, enabling it to do its work properly, maintaining health, prolonging life and body efficiency in general; or the voluntary factors—the hands, feet, brains, eyes—work in conjunction with the alimentary machine, withdraw the blood from where it is most needed, deprive digestion and assimilation, lay the foundation for morbidity by starting a vicious circle where poor metabolism promotes disease and disease encourages poor metabolism. That the picture just portrayed is not a product of imagination, but a condition existing wide and broad throughout the numerous avenues of life where the nation's masses work, is a fact too evident to be doubted. The time allowed the laborer, the clerk, the teacher, the office man, for a meal is usually one-half, occasionally one hour. This is consumed either in going to and fro from the place where the meal is had and in actual eating, or "bolting" the cold lunch at the place of employment, swallowing it without adequate mastication, while the time necessary for stomach digestion of an average meal is about three hours. The result of such imperfect equilibrium of body activity, metabolic work on one hand, and voluntary work on the other hand, is the wide spread of alimentary disorders, so prominently encountered in this country. In European industrial centers an equal amount of rest is allowed, but the work in itself is slower, easier, not so rushed, less intense. The proportion of "stomach catarrhs" among the laboring classes is there correspondingly less, while among the rural population of the Old World, where the conditions of rest are good, these "catarrhs" are hardly present at all. The same is more or less true of the

American inhabitant of the country district, while among school children chronic gastroenteric diseases are, with an occasional exception, absent altogether. (I have in this respect studied about four thousand children under my care in four Philadelphia public schools, and found this an absolute fact.) The number of metabolic disorders among a particular class of people is inversely proportional to the amount of rest after meals and directly proportional to the intensity of the work in general. The more the rest and the less intense the work after the intake of food the better the digestion and absorption and the fewer the gastrointestinal disorders are found. Referring again to my observations in Philadelphia public schools, the number of the disorders in question is almost nil, their number increasing as the pupil advances in years and studies, apparently progressing in leaps and bounds as the pupil leaves school and enters the field of life's vocation, the insufficient postalimentary rest then producing its morbid consequences promptly. The topics dwelt upon are facts the observer cannot help noticing everywhere—in the urban centers of Europe, among the laboring masses of the United States, in the hospital dispensaries or in the public schools. The improper cold lunch and the rapid mastication play their role in the production of these troubles, but they themselves are products of haste and inefficient rest.

And not only has nothing been done throughout the centuries of progress and civilization to combat and counteract this abnormal state of work, food and rest, but conditions, as I pointed out several times, are actually constantly getting worse. The one-day-a-week rest established thousands of years ago by founders of religions and patriarchs of nations was good enough in the days of yore for the ancient man, worry free, unmarred by problems of turbulent civilization, but certainly not for the modern man, burdened by uncertainty, anxiety, competition, rapid locomotion, machinery with its rush, dangers, incidents, and accidents, a life full of nervous stress and strain. Under these circumstances the old one-day-a-week, the ancient form of rest, steadily increases its morbid influences on the overworked, exhausted apparatus of digestion and assimilation. Surely something ought to be done in the direction of ameliorating this neglected, deplorable state of affairs.

How the H. K. Mulford Company Prepared to Meet the Influenza Pandemic of 1918.

Realizing that the epidemic of influenza raging in Europe was likely to invade the United States, the H. K. Mulford Company early prepared to meet the demand for serums and vaccines required for the prevention and treatment of the disease and its complications.

The disease was known to be due to a mixed infection in which the influenza bacillus (Pfeiffer's bacillus), pneumococcus, streptococcus, micrococcus catarrhalis and the staphylococcus were the invading causative microorganisms.

Early in September the facilities of the Glenolden Laboratories were offered to the hospitals of Philadelphia to aid in the investigation of the cause of influenza and particularly the pneumonia complications. Material was sent from the Philadelphia Hospital, U. S. Naval Hospital and other institutions for study. Fifteen strains of the influenza bacillus and virulent strains of streptococci hemolyticus taken from the material sent in from the hospitals were added to the influenza bacterins to insure their greater specificity.

The pneumonias following the attacks were known to be due to the pneumococcus and streptococcus, consequently antipneumococci and antistreptococci serums were prepared in large quantities to meet the requirements.

For several years previous, extensive studies had been made by Dr. A. Parker Hitchens, former Director of the Laboratories, to determine the character of the infections responsible for influenza, acute bronchitis and common colds, which year after year regularly occur in the United States. The microorganisms causing these diseases in former epidemics of influenza are the same as those responsible for the pandemic of influenza occurring in 1889-90, and also the present pandemic.

The H. K. Mulford Company are therefore, entitled to credit for the research work done in their laboratories, which enabled them to place in the hands of the medical profession a serobacterin and bacterin for the prevention and treatment of the respiratory affections, particularly for preventing influenza and the catarrhal and lobar pneumonia complications.

These bacterins, known respectively as Influenza Serobacterin Mixed and Influenza Bacterin Mixed have attained high reputation both as prophylactic and therapeutic agents.

When the influenza finally reached this country and with sudden onslaught swept

over the eastern section of the United States, these reliable and effective prophylactic and therapeutic agents were supplied in enormous quantities and were largely responsible for controlling the disease and in reducing mortality.

Reports from physicians in charge of medical work connected with industrial institutions, boards of health and from general practitioners abundantly justify the prophylactic use of Influenza Sero-bacterin containing the organisms isolated from the present epidemic in preventing Influenza and Pneumonia.

It is too early to supply exhaustive statistics, but enough evidence has been accumulated to fully justify the employment of Influenza Sero-bacterin or Influenza Bacterin Mixed, for the prevention and treatment of Influenza. It has been amply demonstrated that patients immunized by the bacterins rarely acquire Influenza and those who take the disease are practically insured against complication of the pneumonias which have proved so fatal during the recent epidemic.

Prophylactic Vaccinations Against Catarrhal Infections of the Respiratory Tract.—Eyre and Lowe, in *The London Lancet*, report the results of a series of prophylactic inoculations with mixed vaccines against purulent bronchitis and respiratory catarrhs in New Zealand troops in England. In January, 1918, 327 cases of measles and rubella, all of a mild type, occurred among members of a certain reinforcement of the New Zealand Expeditionary Force, which had arrived in England on the 7th and 9th of that month. During February a further 124 cases were admitted to hospital, and of these 24 died. An investigation revealed the fact that the exanthem was usually complicated by "purulent bronchitis," clinically identical with an outbreak which occurred in the Aldershot command early in 1917. The bacteriological findings were: *B. influenzae* was present on one or more occasions in 12 out of 14 sputa examined, usually associated with *Streptococcus longus* and various types of *Micrococcus catarrhalis*. In fatal cases the heart blood and spleen showed the presence of *Streptococcus pyogenes longus* with marked hemolytic properties. Morbid histology of pulmonary tissues consisted chiefly of a prudent bronchitis and peribronchitis associated with areas of edema, areas of collapse, and patches of lobular bronchopneumonia, while at the bases of the lungs the process tended to involve larger areas, and, in rare in-

stances, to progress to complete consolidation. The incidence of rubella and morbilli must be regarded therefore, in many instances as a predisposing cause producing the initial lowering of resistance which facilitated the entry of the *B. influenzae*; in other cases the eruptive fever appeared to be merely a coincidence. The few blood counts that were made showed a slight but distinct polymorphonuclear leucocytosis, not only relative, but also absolute. Bearing in mind the susceptibility of the average New Zealander to infections of the respiratory tract, it was decided to attempt to immunize reinforcements by prophylactic inoculation against catarrhal infection, and arrangements were at once made for the vaccination of the entire personnel of the two most recent reinforcements in England. A multiple vaccine was prepared from organisms contained in the secretions of purulent bronchitis and in the sputa of other catarrhal cases among the troops in England. The vaccine was prepared in two strengths, the dosage to be 5 c. c. on each occasion, the second dose, i. e. the stronger vaccine, to be administered ten days after the first. The initial dose was given to 2,081 men; in 97.7 per cent. there was no reaction, in 2.0 per cent. the reaction was slight, and in 0.3 per cent. severe. The number of men who received the second inoculation was 1,627; in 98.8 per cent. in 0.4 per cent. severe reaction. A statistical record was made of the results of vaccination in the first 1,000 cases inoculated and this has been compared with the average of all respiratory complaints occurring per 1,000 among uninoculated New Zealand troops in United Kingdom from March 15, 1918, to August 18, 1918. This shows that whereas only 12 cases of respiratory complaints among the inoculated men were admitted to hospital, the average among uninoculated troops was 73.1 per 1,000. Anticipating a "negative phase" as a result of inoculation, the authors arranged that all cases, however trivial, should be admitted to hospital; 15 admissions were reported between the first and second dose of vaccine, and 82 during the ten days following the second inoculation. The authors therefore suggest that the initial dose might be larger, or the interval between the two doses a few days longer. The effect of the inoculation was demonstrated in June, when a widespread pandemic of influenza commenced, the prime factor being the *B. influenzae*, associated in severe cases with other catarrhal organisms. The incidence of this

epidemic was appreciably less among the inoculated men, being 2 per 1,000 as against 28.4 per average thousand. Serological tests were made in the case of 20 New Zealand soldiers both before and after inoculation and 10 English soldiers who had not received any catarrhal vaccine or suffered more than ordinarily from catarrhal complaints. The number of cases was too small to permit of much weight being accredited to the results, but it would appear (1) that the average colonial, just arrived in England, has only about 50 per cent. of the natural immunity to the organisms of catarrh prevalent in England that the average English soldier enjoys; (2) that as a result of catarrhal vaccination his immunity can be considerably increased, and (3) that, at any rate for a time, his specific agglutinins to catarrhal organisms exceed in amount those of the average Englishman.

Kineplastic Amputations.—Putti, in *The London Lancet*, says that the medical literature of Italy, Germany, and Austria amply discusses the fundamental theories of "kineplastic amputations" which were so ably brought forward by Giuliano Vanghetti, the original exponent of these principles, but the French, English and American literature contains very few if any allusions to the subject. In 1896 Vanghetti first conceived the idea of conserving the functional resources of the stump so as to convey movement to the artificial limb. He wrote and published many articles on what he had named "kinematic amputation," but was prevented from putting his theories into practical application so that prior to the present war the number of cases of kineplastic amputations did not exceed twenty.

The word kinematization is applied to the active mobilization of such muscles as are involved in amputations with the idea of later vitalizing the artificial limb. Motor flaps are formed of the muscles and tendons which may act independently of the stump, and may be at the end (terminal) or in the continuity of the stump (extraterminal). Motor flaps are more easily formed in the upper limb and this therefore has more frequently been kinematized, but the number of successful cases of kinematization of the lower limb is increasing.

The application of kinematization upsets all ordinary methods of amputation. There must be preserved the greatest possible amount of bone as well as the motor masses and integuments. Skin flaps, mus-

cular insertions, various bone and tendinous fragments which would seem utterly superfluous under ordinary circumstances for the preparation of ordinary stumps are to be considered of the greatest value in kineplastics. In many instances on the battle front it is impracticable to perform primary kineplastics, but in such the retraction of the softer tissues must be guarded against so that a subsequent application of the principle may be successfully carried out.

A motor flap must (1) possess every requisite for withstanding a firm, resisting and painless grip, also a traction that something attains a high degree, and (2) it must be provided with a sufficient amount of functional muscular tissue to guarantee the accomplishment of the task that will be demanded of it. The flap must be covered with skin in perfect condition, well nourished, and provided with a normal degree of sensibility. It must also be of suitable size for the fastening of hooks, wings, and rods that are destined to transmit the functional movement of the artificial limb. As the tendon is the element best adapted for the transmission of the muscular contractions, it must be largely used for the formation of the terminal motor flaps, or by tunnelizing the muscular masses extraterminal motors are formed.

In order to supply such materials as may be missing in loco recourse may be had to the numerous methods of transplantation of skin, muscle, aponeurosis, or bone. Arthroplastics, with interposition of aponeurotic flaps, may render stiff and ankylosed stumps usable. The difficult prosthetic problem of gaining power over the knee-joint has been solved by successful kinematization of the quadriceps; also the carpal stumps, the very short forearm stumps, and the disarticulation stumps are capable of good functional movements due to kineplastics.

The action of the flexor and extensor muscles of the forearm may be transmitted to the artificial limb by means of metal rings covered with vulcanized rubber. These are placed at the ends of the finger-like motor flaps and gradually tightened until held firmly, to which the fingers of the artificial hand are attached. In another type of motor flap the tendons of the flexor and extensor muscles are brought together in such a manner as to form a ring or loop which is covered with skin, through which a rod is placed to be attached to the artificial limb. Experience has proved that if the motor flap is well placed, if the skin that covers it is

healthy, and if the wounds are absolutely healed, neither the rings nor the rod cause the slightest pain nor do the least harm. The ring is supplied with a screw by which the injured man may regulate the pressure on his finger-like motor flap. The rod should be removed at least once in twenty-four hours in order to clean it with alcohol and lubricate it with vaseline.

The sensibility and muscle sense of the flap when first made is greatly altered but improves upon use until even a keener sense than normal is developed. The patients best adapted for this class of procedure are those between twenty and thirty years of age, who are intellectually keen, and can adapt themselves to their newly formed members. Diligent training is required to cultivate the muscles to accurately and untiringly take up their new work. It is essential that the artificial limb be suitable for the stump and for the work demanded of it.

While the idea of kinematization is twenty years old, yet it took the present war to bring out its development. Prior to this the Italians had used it almost exclusively. Lately the Germans have created an admirable scientific organization, but have contented themselves with the development of a single type of motor flap although the possibilities have been proven to be much greater.

He concludes that:

1. Kineplastics are entitled to be placed among the most brilliant of the discoveries of orthopedic surgery, deserve to be accepted with confidence, and tested on a large scale by those whose aim it is to restore to the disabled man his functional activity.

2. The preparation of motor flaps is a well defined surgical act that must be performed in accordance with its own technique, the methods of which have already stood the test of experience.

3. Motor flaps are capable of giving both the quality and quantity of action determined by their muscular masses that actuate them, yet the artificial limb must fit perfectly and be of the proper strength.

4. The surgeon and the mechanic must work in harmony to satisfactorily solve this interesting and difficult problem of vitalization of the artificial limb.

Acute Coryza.—Ernest Dantziger (New York Medical Journal) thinks that acute coryza is a disease that is more disagreeable than serious, and that therapeutical attempts seem to have but little

effect in influencing the cause of the affection.

These statements are not correct. The acute cold in the head may lead to grave consequences, and with appropriate treatment not only can the discomfort of the patients be alleviated, but they will be protected from serious complications. The importance of the subject forced itself upon me during recent years when we have been exposed every winter to epidemics of the grippe.

Acute coryza has to be regarded as an acute infectious disease caused by the pneumococcus, streptococcus, or bacillus influenza which are found chiefly associated with staphylococci. We know that the nasal secretion contains certain bacteria normally, but to make one certain germ responsible for the infection it is necessary to find such germ in a pure culture with the normally present bacteria absent.

If a disturbance of the local circulation is produced by a sudden change of temperature or by exposing an isolated part of the body to a draft or moisture (head or feet), pathogenic germs find a suitable soil for development, and acute coryza makes its appearance.

Chemical irritating substances may produce an inflammation of the nasal mucosa, but only temporarily.

Hay fever is caused by the pollen of plants in the atmosphere only in subjects who react to it in an anaphylactic way. There is one other form of coryza which is not due to infection, but rather to an irritation of the mucous membrane of the nose from some metabolic conditions. In certain individuals, certain substances, spices, alcoholic beverages, will produce the sudden appearance of all the symptoms of acute coryza, which will disappear within a day after elimination of the toxic substances. These are the cases which are controlled by adrenalin or other medicaments. They would have disappeared in the same time spontaneously. We know that in anemic children with a tendency to rheumatism, sugar or egg albumin might be the source of a never ending nasal discharge, the treatment of which is of course, self-evident.

Acute coryza is ushered in by a more or less marked feeling of chilliness. In the nose is experienced the sensation of burning and itching which leads to repeated attacks of sneezing. In about 12 hours, the nose starts to discharge a colorless seromucous secretion which, within a few days, changes to a thick yellowish greenish mucopus.

This condition improves slowly, and in two or three weeks, complete restitutio ad integrum takes place.

But not always is the course so favorable. In quite a few instances, the secretion from the nose continues for weeks or months; sometimes the patient complains of headaches and facial neuralgia; the nasal secretion is of such an amount that the patient cannot carry handkerchiefs enough to receive it. Occasionally symptoms disappear for a week, only to return at the slightest change of temperature.

What are the pathological processes taking place during an acute coryza? At the onset we find the mucosa hyperemic, with a bluish red, glassy, dried appearance. As soon as the second stage of secretion is reached, the mucous membrane is swollen and edematous, and covered with watery secretion. It is not so much the seromucous secretion which prevents nasal breathing as it is the edematous swelling of the mucosa of the turbinated bones, which fills the whole nasal cavity. On inspection we find the lower nasal meatus filled with grayish glairy mucus interfering with expiration. Gradually the edema of the mucosa disappears, the amount of secretion diminishes, and normal conditions are reestablished in about three weeks.

The treatment of acute coryza has been the following: During the stage of chilliness and irritation, urotropin has been given with the idea that by the secretion of formaldehyde the development of the coryza can be prevented antiseptically. So far as I am concerned, the results have been decidedly disappointing. Powders, consisting of aspirin, phenacetin, Dover's powder, and caffeine give the patient a feeling of well being and relieve the headache. A thorough evacuation of the intestinal tract with calomel is indicated.

The purpose of local treatment is to remove secretion, to reduce the edematous tumefaction, and by so doing establish good drainage from the accessory sinuses. The patient should irrigate the nose with warm saline solution (say one teaspoonful to a pint) a few times a day with the following precautions:

1. The point of the nose piece of the syringe must not occlude the nostril.

2. The stream must be horizontal.

3. If irrigated from a douche bag, same should not be elevated higher than the ear. In case of difficulty in starting the flow, remove nozzle from nose, elevate the bag until fluid starts, lower the

bag to the desired height, and insert nozzle into the nose.

4. Patient should bend the head forward during the irrigation.

5. Under no condition should the patient blow the nose directly after irrigation. When he blows his nose he must not touch or compress either one or the other nostril.

It is not the irrigation itself, but the improper blowing of the nose afterward, which causes ear complications. After removal of the secretion, the patient uses an adrenalin ointment which by reducing the swelling of the mucosa promotes drainage from the sinus and enables the patient to breathe more freely. During the second week, I add to this treatment a spray with an oil containing one of the volatile antiseptics.

With such therapeutic measures, the patient feels much more comfortable, and by the establishment of better drainage of the accessory sinuses, complications in that region will be avoided to a great extent.

Warfare Injuries of the Larynx.—

Harmer, in *The London Lancet*, based these remarks upon data from 245 patients as follows:

Group 1, including 108 cases, particulars of which have been obtained partly by personal observation (24) and partly as the result of circulating a letter to 80 laryngologists in Great Britain and France.

Group 2, including 110 cases, the notes of which were obtained by examining the records of 1,873 patients suffering from gunshot wounds of the neck and treated in home hospitals during 1914 and 1915.

Group 3, including 23 postmortem specimens obtained from the Royal College of Surgeons of England; also 4 fatal cases, notes of which were supplied.

It has been noted:

1. That wounds of the larynx are infinitely rarer than injuries to the jaws.

2. That the entry wound may be situated in any part of the neck (jaw and chest occurrence is rare), and is generally smaller than the exit injury.

3. That the commonest place of entry is the anterior triangle of the neck, especially the region of the thyroid cartilage.

4. That transverse wounds (61) are more common than oblique (24).

5. That entry wounds in the middle line in front are very rare (8) and never occur posteriorly, doubtless because the

spine is always involved with fatal results.

6. That the track of the missile may be horizontal, from above downward, or occasionally from below upward.

7. That the lower jaw may be struck first.

8. That injuries of the larynx between the level of the vocal cords and the cricoid are the most serious.

9. That tracheal wounds are rare (12).

10. That the pharynx or oesophagus is often included.

11. That extralaryngeal wounds are very common on account of the mobility of the air passages, the missile often passing obliquely by the side of the thyroid cartilage or transversely behind the larynx without penetrating into its cavity.

Concerning treatment, it is mentioned that high tracheotomy is less dangerous than low tracheotomy, and that special attention should be paid to providing free drainage, removing foreign bodies and lacerated tissues, and suturing divided air and food passages. The question of warmth, moisture, inhalations, management of the tracheotomy tube, prevention of dyspnoea and the feeding are all highly important to recovery.

For the subsequent stenosis, dilatation by bougies, intubation tubes or upward-turning tracheotomy tubes should be gently practiced. Finally, the patient should wear a tube corked for months before it is permanently removed.

As regards after-results, in two-thirds of the gunshot injuries to the larynx that survive for more than a week, recovery is complete and no ill effects are produced beyond alteration in the voice. A small proportion of the cases with abduction paralysis (the most frequent type) recover, although total paralysis may supervene. Some of the survivors may be crippled by complications such as paralysis of the brachial plexus, bronchitis, loss of voice, and injury to health.

In closing, the author recommends as a prophylactic measure the insertion in the collar of the soldier's uniform of a band of steel which would have the same effect as a helmet.

Diagnosis in Genito-Urinary Surgery.

—McConnell, in *The Medical Press*, London, points out that a complete diagnosis of a disease in the urinary system would include an exact description of the causative factor, the influence of that lesion on the secretion and excretion of urine and the effects of the derangement of the uri-

nary system on the organism as a whole. To determine the nature of the local cause of disease the employment of certain technical methods is necessary. Through the cystoscope and urethroscope the urinary tract from the vesicle orifice of the ureter to the external urinary meatus can be seen. Above the ureteral orifice by the aid of radiography stone in the ureter and kidney can be demonstrated, and by a combination of ureteral catheterization, the injection of opaque substances into the ureters, and X-ray examination, the capacity, outline and course of the ureter and its pelvis can be determined photographically, and the obstruction therein can be noted. By such methods the whole of the urinary tract lends itself more to a complete search for local lesions than any other system in the body.

There are cases in which it is not easy to state definitely that there is obstruction, and in such cases a careful examination of the nervous system must be made because symptoms of obstruction at the neck of the bladder without any organic cause being perceptible, point strongly to a nervous lesion which is not always tabetic. In fact, in no doubtful case should such an examination, combined with a Wassermann test, be neglected.

The exact nature of the local lesion is of small importance compared with the effects produced on the kidney. Obstruction at the neck of the bladder causes retention of urine, the muscular coat of the bladder becomes hypertrophied in the effort to overcome resistance, but in spite of the excessive muscular exertion some urine remains constantly in the bladder. The presence of this residual urine and the excessive development of the vesical muscle around the ureteral orifices causes a certain amount of back pressure along the ureters, which become dilated, and a condition of hydronephrosis results. The fluid retained in the pelvis of the ureter exerts pressure on the kidney itself, and if of long standing, interferes with the secretion of urine.

Tuberculosis of the Urinary Tract.—Lesions of the prostate and neck of the bladder are elements of an essentially mechanical process, obstruction to the flow of urine. The first part of the urinary tract to be involved in tuberculous disease is the kidney and the bladder is the indicator thereof. Vesical symptoms have a renal cause when tubercle bacilli are present in the urine. This is a generalization. In a clinical case of renal tuberculosis all we can determine is the pres-

ence in the kidney of a tuberculous focus and if these symptoms have developed very recently we might venture on the diagnosis of a focus of tuberculous granulation tissue near the apex of a pyramid involving the corresponding calyx. From the kidney the infection spreads to the bladder along the lumen of the ureter. The ureteral orifice becomes edematous, small tubercles form around it, and ulceration follows. The appearance of these signs at the ureteral opening is of the utmost diagnostic importance in an early case, for it signifies the presence of disease in the corresponding kidney. On the other hand, the disease may have totally destroyed the kidney on one side, the bladder and both ureteral orifices may be involved, and the kidney on the other side may be sound. Too much significance cannot, therefore, be attached to the appearance of the ureteral orifices in an advanced case. Both ureters must be catheterized and if the urine from one is normal, it is safe to diagnose an extensive tuberculous process in the kidney of the other side. The amount of disturbance of renal function is sometimes out of all proportion to the extent of the disease.

Tumors of the Bladder.—It is commonly held that any tumor of the bladder may be malignant and that an accurate diagnosis can only be made by examining the base of such a growth. With the advent of the high frequency current as an endovesical method of treatment it is essential that we should exclude malignant disease before high frequency cauterization is employed. Malignancy is suggested by cells manifesting irregularities in size and shape; nuclei rich in chromatin, deeply staining and of bizarre shape; cells with a typical mitosis; giant cells and multinucleated cells. All these, when occurring in papillomata, indicate the presence or beginning of carcinomatous change. Further evidence is afforded by an unusual relationship of the cells to each other, in a loss of the typical palisade arrangement of the cells, in the presence of long fusiform or compressed type of cells, in the existence of evidences of infiltration of the stroma and penetration of the basement membrane, in the presence of cells in the capillaries and in the occurrence of epithelial cells in the submucosa or muscular coats of the vesical wall.

Lesions of the Posterior Urethra.—Lesions of the posterior urethra, though sometimes intrinsically insignificant, frequently affect deleteriously the urinary,

sexual, or mental balance of the patient. Many of the pathological conditions found are either concomitants or results of gonorrheal infection. The presence of small cysts in the verumontanum may keep up a slight discharge, often free from micro-organisms, for many months.

By supplying to shed blood one of the necessary physiological constituents to the formation of a clot it is possible to hasten blood coagulation. Hemagulen, a product of the Lilly Laboratories, contains this necessary thromboplastic substances from fresh brain tissue. It is sterile and is suspended in a physiological saline solution and preserved with a 0.3 per cent. cresol; it is tested physiologically and standardized. Hemagulen is indicated in persistent hemorrhages from capillaries and small vessels where it can be applied to the bleeding surface. It is also given orally in doses of two to eight drams, diluted with water, in cases of hemorrhages from gastric and duodenal ulcers. The drug trade supplies Hemagulen in ounce bottles.

Surgical Pathology of the Peripheral Nerves.—Cone, in *The British Medical Journal*, has investigated the gross and histological changes in more than two hundred cases of nerve suture in the Alder Hey Hospital which is in charge of Sir Robert Jones. The object of this painstaking research was to solve the problems of nerve regeneration in war injuries of the peripheral nerves. These nerves are ready to unite at both ends of the injury before the end of eight months.

The nerve-bulb, found at the end of the proximal segment, distal segment, on the side of a nerve, or as a cylindrical enlargement of the trunks, is the place where one may expect to see the most prolific growth. The same kind of growth and appearance is found here as is seen on the ends of nerves of amputation stumps.

It has been a difficult matter to convince many that there are fully formed nerves in either end-bulb. Now it is scarcely questioned that these nerve callus masses are full of nerves containing axis cylinders. The gross appearance of these wildly growing, coiling, twisting nerves is that of dense scar tissue. It is grayish-white, hard, nodular, and commonly seen at the ends of nerve-trunks.

In all of his sections of nerve-bulbs there was more nerve than connective tissue; as a rule they consisted of three-quarters nerve and one-quarter connective

tive tissue and vessels. The microscope demonstrates the homogeneous mass to consist of interlacing fasciculi of young nerves, the fasciculi varying in size from 10 to 50 μ in diameter. The nerves making up these small bundles are young varicose fibers 1 to 3 μ in size.

There is practically complete unanimity of opinion that regeneration occurs in the distal end of a divided nerve, but nerves grow best from the proximal end. He has demonstrated four methods of connecting the distal with the central or spinal fragment, thus giving the embryonal nerves an opportunity to mature: (1) by neighboring nerves, torn at the time of the original injury; (2) by a strand of undamaged, overlooked nerve still connecting the central and peripheral stumps; (3) by nerve fibers which have worked their way through the scar; (4) by adhesions carrying nerves around or bridging the scar.

The grayish-pink pulpy (gelatinous) appearance of the cross-section of a nerve is due to vascular, protoplasmic, much nucleated material in the small nerve-bundles; it means nerve regeneration. The denser grayish-white sections dotted with gray or grayish-pink points signify regeneration of young nerves; they have reached a fuller development than in the more pulpy areas. Constricting scar is particularly damaging when circular. Nerves pulled aside by bone callus or adhesions always contain well-developed fibers. Adhesions, middle-zone scar, and surrounding injured nerves are means of keeping the distal segment alive. The old degenerated nerve fibers form the best conducting paths for the growth of young tendrils.

There are certain influences causing nerves to grow and take a definite course. Nerves grow well in granulation tissue because the blood-vessels act as a scaffolding along and within which nerves grow. Nerves also grow well in fascia lata and in fact better than in muscle. There is a strong attractive force termed neurotropism exerted by one nerve upon another growing nerve.

The scar that is said to be the *bête noire* of the surgeon is between the ends of the severed nerves. The author finds it no different from any other scar tissue except that it seldom becomes sclerotic.

Densely-growing tissue of any kind makes it difficult for a nerve to pass through. Nerves may be turned aside when their ends reach an already prepared buttress. It is quite natural that unless the nerve fibers have grown pari

passu with this connective tissue, an entering wedge will be next to impossible; it must be made when the tissue is young, cellular, and vascular. At that time the injured nerve was beginning its growth also. It was in granulation tissue, with many branching, irregularly coursing blood-vessels. These vessels directed its way, the new tendrils following the capillaries, there being no stronger force such as the chemotropic influence of an opposite nerve stump to attract it. Finally it may reach the old gap, but conditions now, at the end of weeks or months, are very different. Instead of a loose, vascular, cellular tissue, there is firm, dense, connective tissue. The nerve may perchance follow a vessel into this, and send a few young tendrils into the scar. The chances are that the wild, turning, twisting, spiral course it had already followed, for the most part under the influence of the capillary blood-vessels, will now be exaggerated. A bulb results. It is not due to lack of ability to grow that the nerve-bulb forms. It is rather due to its excessive hardihood. It coils when it cannot pass the block. Nerves are invariably seen in painful scars.

Altogether this is one of the valuable contributions to the surgery of the peripheral nerves which the present war has brought out.

An Analysis of Causes of Breakdown in Flying. With Notes on the Nervous Mechanism of the Flying Man.—Gilchrist, in *The British Medical Journal*, has chosen the term "breakdown" to describe patients rejected by the Royal Air Force Special Medical Board as permanently unfit, that is unable to fly for at least six months, more probably for years, and possibly never. He points out that the great difficulty is to distinguish between nervous subjects who will not make good flyers and the highly strung, sensitive type, who is healthy otherwise and whose nerves are under control—a type who has proved over and over again the finest flyer of all. An analysis of 100 consecutive cases showed the cause of failure to be psychological or subjective, i. e., loss of confidence or general breakdown, in 67 cases; objective nervous conditions in 14 cases; and physical complications in 18 cases. A careful review of the candidate's past nervous history will give valuable information as to his fitness for duty as a flying officer. Since an unstable nervous temperament is hereditary, the family history is important, 27 per cent. of failures giving a nervous family

history; a nervous personal history (40 per cent. of failures) must also be considered, and nothing leads to failure more surely than a history of a serious nervous breakdown (30 per cent. of failures). The time at which such a breakdown took place makes little difference. In the case of observers who come up for training as pilots with a history of such breakdown, certain men of unusual strength of will and character may be accepted, if there are no active symptoms and if they have had a prolonged rest since the breakdown. In the qualified pilot much depends upon the cause of the breakdown and on the individual; if due to stress of service or malaria, recovery should take place; experience, however, has shown that few stand the strain of service long enough to justify their training. Dreams, nightmare, and somnambulism in infancy resulted in 21 per cent. of failures, and in adult life in 55 per cent. of failures. Such a history is a sign of an unstable nervous system, and the author points out that even a qualified flying officer should be free from nightmare for eight or ten weeks at least before commencing to fly again. Thirty-seven of the cases gave a history of concussion or shell shock. Candidates with a history of concussion with prolonged unconsciousness should be rejected except in very special cases; if followed by nervous breakdown, every case should be rejected. This applies also to shell shock. Qualified pilots with history of concussion may be employed again after two or three months' rest, if recovery has been speedy and has not been followed by nervous breakdown. However, they should be given light duties at first with dual control. Where there has been more than one attack of concussion, very prolonged rest is necessary. As a rule both in candidates and flying officers affections of the higher cerebral functions (which occurred in over 52 cases of the series) preclude future flying; they may make capable instructors after due rest, but as pilots they do not last even if they resume flying. Thirty-six of the cases gave a history of recent malaria, and Captain Gilchrist emphasizes strongly the fact that malaria is often the direct cause of a breakdown of the nervous system and especially of the higher cerebral processes. Under rest and appropriate treatment such cases do well. Exaggerated reflexes (82 cases) and tremor (73 cases) in themselves are not of importance. In deciding whether or not to reject a candidate who is highly strung, a great deal de-

pends upon the individual; the university athlete who has been trained to self-control will probably justify training expenses, but it is better to reject the introspective clerk with little experience of outdoor exercise or sport. Much depends also on the way in which such subjects are handled in training. They are sensitive of criticism and over-anxious to do well and should be encouraged rather than found fault with. Finally, medical officers who believe that the ailments of the neurasthenic are imaginary and can be voluntarily set aside should not be attached to flying schools, where the medical problems give scope for the finest scientific minds.

Following Influenza.

Following influenza the bodily resisting forces are much impaired and the patient falls an easy victim to its complications.

This fact points clearly to the need for a concentrated tissue food such as cod liver oil. The use of Cord. Ext. Ol. Morrhuae Comp. (Hagee) in every case of influenza (during and following the attack) is logical since it offers the patient additional nourishment and fortifies the system against complications and chronicity.

The advantage of Cord. Ext. Ol. Morrhuae Comp. (Hagee) is that while it supplies every property of cod liver oil, it is palatable and never objectionable.

Transfusion With Preserved Red Blood Cells.—Robertson, in *The British Medical Journal*, says that at casualty clearing stations during the busy time of an attack, it is obviously impossible to perform transfusions by the usual methods in nearly all the cases in which transfusion is indicated. The difficulty of obtaining sufficient blood under rush conditions, the time consumed in carrying out transfusions, and the need of every available medical officer in the operating theater, all tend to reduce the number of transfusions. The use of preserved human blood cells for transfusion suggested itself to the author as a possible solution of certain of these difficulties.

The experimental work of Rous and Turner is reviewed. They found by animal experimentation that it is possible to preserve living red blood cells for four weeks in a solution of dextrose and citrate when kept at ice-box temperature. The writer made use of this method of keeping blood for transfusions during a rush period at a casualty clearing station.

The author gives in detail the method of the preparation of the preserving solutions. Persons belonging to blood group IV only are used, as this saves the necessity of doing agglutination tests before transfusion, since blood cells of this group are not haemolyzed or agglutinated by the blood of any individual.

A full description of the apparatus used for procuring the blood, for storing the blood, and for giving the blood is presented in the article. The author's technique of blood transfusion is also given very clearly and in detail.

Twenty-two transfusions of preserved red blood cells were given to twenty individuals, the majority of whom were suffering from severe primary haemorrhage. A quantity of blood had been stored up beforehand ready for use when needed, and had been kept varying periods of time up to twenty-six days before it was used. Haemoglobin estimations before and after transfusion were made, and the urine studied for evidence of increased blood destruction.

The results of blood transfusion with preserved red blood cells were found to be quite as striking as those seen after transfusion with blood freshly drawn. There was the same marked improvement, the patients stood operation well, and subsequent progress was quite as good as in those cases transfused by the usual methods. The introduction of kept red blood cells had no apparent harmful effect, as there were no reactions or evidence of increased haemolysis after transfusion.

The chief advantage of this method over other methods of transfusion in current use is the great convenience of having a large stock of blood on hand for busy times. The transfusions can be given relatively quickly, and the technique, which is simple and easily acquired, can be carried out at the bedside by one medical officer. Experiments in the transportation of preserved blood in an ambulance over rough roads have shown that it can be carried for a considerable distance without injury to the red cells.

An Address (Part of) on Sensory Changes in the Diagnosis of Trench Fever. Given Before a Base Medical Society in France—Jones, in *The London Lancet*, refers to the clinical investigations conducted by Sir James Mackenzie, Dr. Henry Head, and others on the association of inflammation of viscera with areas of increased sensibility of the skin. Some work on the lines laid down by these ob-

servers has been done at a Base Hospital in France, and records of 500 consecutive examinations are now available. The work of Gaskell made it possible to construct a working hypothesis, based on the principle that every segment receives an afferent nerve from a viscus, and if the viscus is inflamed the skin area connected with the same segment becomes hyperalgesic. Carmalt Jones describes in detail the procedure followed; a series of light pin-pricks (with a wooden match finely pointed) is applied to the skin along a line which cuts across a number of segmental areas, for instance, from the clavicle to Poupart's ligament. The patient will be seen to flinch when the pricks pass from a normal to a hyperalgesic area; the spot where the flinch occurs is marked with a skin pencil and the experiment repeated from below upward and the skin marked again. The series of 500 included cases of various kinds of fevers, diseases of the circulatory, respiratory, alimentary and genito-urinary systems. It was found that of the 130 cases of "fever" of various kinds, trench fever and malaria were commonly associated with hyperalgesia of three definite groups of segments which do not correspond with those belonging to any of the viscera noted in the series. These areas were: the eighth cervical and first dorsal, the seventh dorsal, and the first, second, third, fourth and fifth lumbar. This is the "full trench fever distribution" and it was noted, more or less completely, in nearly every case clinically diagnosed as trench fever. Of 18 cases of malaria examined, 16 showed precisely similar areas to those found in trench fever. It is suggested, therefore, that hyperalgesia of these particular segments is diagnostic of a group of disease consisting of malaria and trench fever, and it is remarkable that one of them is mosquito-borne and the other louse-borne; that both appear to be protozoal, with a definite cycle of development, as shown by periodicity of the febrile attacks; that both appear to lie dormant for considerable periods within the body; and that both are associated with enlargement of the spleen. It is possible that the eighth cervical and first dorsal may indicate an affection of the thyroid gland; and the seventh dorsal may indicate the spleen. The significance of a lumbar hyperalgesia as yet is unexplained. Major Carmalt Jones points out the diagnostic value of such hyperalgesic areas in visceral lesions in general. In trench fever he believes hyperalgesia of the areas indicated to be diagnostic, when

malaria can be excluded. He suggests also that afebrile cases of other disorders, such as D.H.A. and debility, which show the same changes, may be suffering from a chronic form of the same infection. He points out that among 100 cases of D. A. H. examined at a "heart center" in France, who showed positive changes in sensibility, 67 gave evidence pointing to trench fever alone and of 33 that had signs of a true heart lesion, 22 also showed signs of trench fever. This would mean that trench fever constitutes a serious source of invaliding. In any case, the question is worthy of further investigation.

Every War Wound, not Containing Streptococci, Must be Sutured.—Gross (Bull. de l'Academie de Medicine), after an experience of several years with large incisions, then with excisions, says that surgeons at the front began to notice that certain wounds healed in so simple and natural a manner that the idea of primary suture suggested itself to them. The author claims to have been the first to practice complete closure of war wounds in the surgical automobile hospital No. 12, with varying success, but confesses that he did so without being able to base his observations on any scientific facts or to explain to himself why certain wounds cicatrized by first intention, while others, operated on under identical conditions, did not do so until about three months ago. The studies of Tissier furnished the desired information. Tissier's conclusions were that it was the anaerobes which determined the putrid infection of war wounds, but that their development depended on the presence in the wound of dead tissue and on the simultaneous presence of one or more aerobes. The extension of the gangrenous process depends on the presence of the anaerobes and the aerobes associated with them. In the serious infections, this aerobe always is the streptococcus.

The practical conclusion is: That every war wound, not infected by the streptococcus, may be united by suture, after proper surgical treatment, and ought to heal. If the bacteriological examination reveals the presence of streptococci, the sutured wound should be reopened; in every other case in which complete excision was done, it should be left alone after the patients have arrived at the hospital. The streptococcus, cultivated on a liquid medium at 37°, will give the answer in five to six hours.

Of the 759 sutures, done by Tissier's

method, between July 23 and September 10, fifty days, 675 healed by first intention, 47 healed partially, and 37 were reopened after the presence of streptococcus had been shown. The successes, therefore, amounted to 88.8 per cent.

Gross concludes that primary suture constitutes the rational treatment of war wounds; that the great merit of Tissier consists in his having shown that the quality of the infecting microbe alone is of importance; that the presence of the streptococcus alone should prevent the closure of a wound or cause its being reopened. This streptococcus is met with in from 10 to 15 per cent. of war wounds of recent date; all the others should be closed.—The Military Surgeon.

Masked Syphilis.—Under the heading of "Masked Syphilis" Dreyfus (Annales des Maladies Veneriennes) reports the following interesting cases:

(1) Acute polyglandular rheumatism, with pleurisy and endocarditis, in a girl of 20 years. Intensive anti-rheumatic treatment gave no results. Wassermann strongly positive (blood and spinal fluid). Spirochetes were found in the centrifugized fluid from the pleural cavity. There was complete cure after specific treatment.

(2) Varicose ulcers in a man of 66, with extensive ulcerations on both legs of ten years' duration. Unsuccessfully skin grafted. The multiplicity of the ulcers, absence of varicose veins in the right leg, enlargement of the postcervical glands and positive Wassermann, indicated the syphilitic etiology of the disease.

(3) Chronic articular rheumatism in a woman 61, of ten years' duration, with a tendency to deformation. Pain worse at night. Former treatment without avail. Wassermann positive. Immediate cure under specific treatment.

(4) Anal fissures in a girl of 23 years, without any of the stigmata of heredo-syphilis other than a certain asymmetry of the face and separation of the upper incisors. Wassermann positive. Immediate cure followed antisyphilitic treatment.

(5) Scrotal and macroglossia, also ozena and chronic gastritis in a woman of 26, of ten years duration. Married four years; no miscarriages or children. No history or evidence of syphilis. A sister had typical Hutchinsonian teeth. Wassermann reaction positive in both sisters. Father admitted having contracted syphilis years previously. Under treatment the ozena and gastritis disappeared en-

tirely.

(6) Hypertrophic alcoholic cirrhosis of the liver, the patient having been tapped six times and having been given up as hopeless on ten different occasions. A seventh paracentesis was made and 20 liters of fluid removed. Patient apparently moribund, and presented for examination a greatly enlarged liver covered with tumors of various sizes and consistency. Wassermann reaction positive, although patient denied venereal infection but admitted alcoholism. On further questioning he remembered having had a small painless lesion on the lower lip twenty years previously followed by enlarged eruption on the body. Antisyphilitic treatment brought about complete recovery.

Dyspepsias of War.—Moriquand and Bouchut, in *La Presse Medicale*, report 200 cases of these troubles seen in soldiers in the rear. They seem to be on the increase. When they mend the subjects are returned to the ranks, perhaps to come back again. All of these subjects are studied with radioscopes and many have their stomach contents analysed, stools and blood examined, etc. Organic dyspepsias are not included in these cases. In other words this not only eliminates ulcer and cancer but stomach disorders which are secondary to gallstone disease, cirrhosis of the liver, appendicitis, etc. The symptoms are somewhat monotonous. Most of the men complain of heaviness, bloating, eructations, drowsiness, hot flashes. Less common are headache, vertigo, precordial anxiety and lassitude. The appetite is diminished or absent, the tongue saburral and there is habitual constipation. Cases exhibiting the above syndrome are classed as flatulent dyspepsia. Less common than this flatulent type is the painful type. Pain develops at a variable interval after food. In a third type vomiting is a leading symptom. In 150 of the 200 patients examined with the screen the stomach appeared to be normal, in 45 there was atonia, while five showed hypertonicity. Of the 150 subjects with normal stomach 110 showed flatulence; while 23 cases of the painful type occurred in atonic stomachs. In the great majority of cases examined stomach chemistry was shown to be normal. In other words subjects of flatulent dyspepsia are neither atonics nor hyperchlorhydric. Yet for the most part they reached the authors with the diagnosis of dilated stomach. As a rule these patients showed more or less general par-

ticipation. Emaciation was common as was pallor—in fact they looked as a class like sick men. They were in the prime of youth but had never been robust; for the most part poor folk from the rural districts. Their stomachs had clearly never bothered them before they became soldiers. The authors are inclined to see in these dyspepsias a reflex from nervous and mental overstrain. It is singular that the town dweller, better adjusted to his mental environment, does not develop these dyspepsias. In fact the improved physical conditions and regular habits build him up. The peasant has lived an out of door life with early hours of rest and cannot gain in these respects from army life. Before the war he seemed without nerves and emotional life but quickly develops them. Soon or later they pass through one or another crisis—shell shock, wounds or an illness of some sort—and the end result is a dyspepsia—ostensibly. But as we have seen the stomach is usually normal in all respects so that these troubles must be classed as psychogenic. Nevertheless in certain cases—as in those men who went through definite periods of convalescence—there was abuse of food. With recovery of appetite the men overate. In regard to treatment suggestion should enter into it. Special centers for these patients not only enable the physicians to carry out an approved regimen for the general ill health (anemia, etc.) but also provide an opportunity for indirect suggestions of great value.

Diphtheria and Diphtheroid Bacilli in Open Wounds.—In the *Canadian Medical Association Journal* for September, 1918, are published the results of an investigation concerning diphtheria and diphtheroid bacilli in open wounds, conducted by a commission of the Canadian Army Medical Corps, composed of Col. J. G. Adami, Major F. B. Bowman, and Captains P. Adams, A. G. Fleming, C. D. Farquharson, C. Imrie, and R. M. Janes. The conclusions were as follows: (1) Morphologically and in the early stages, culturally diphtheroid bacilli from wounds are, many of them, indistinguishable from *B. diphtheriae*. (2) Harmless, non-toxic bacilli may be present in wounds affording cultures possessing the same sugar formula (dextrose, lactose, saccharose, and dextrine) as does the true virulent *Kleb-Loeffler bacillus*. (3) It is not justifiable, therefore, to make a diagnosis of diphtherial infection of wounds, either from smears alone or from stained preparations and cultural charac-

teristics. The demonstration that the bacilli produce toxins, ectotoxins, the result of inoculation of both cultures, is alone capable of proving the presence of infection by the true virulent *B. diphtheriae*. (4) By the staining, cultural, and fermentation tests, four cases of apparent diphtherial infection have been detected in a careful bacteriological study of 306 cases of open wounds. By the decisive test of inoculation these are reduced to two. (5) There is a large body of evidence showing that even isolated cases of diphtherial infection of wounds overseas, and complete absence of any evidence in Great Britain that these isolated cases have acted as foci for the spread of infection to other wounded men. No evidence of a wide-spread infection of open wounds by diphtheria bacilli has been discovered in Canadian hospitals in Great Britain. (6) Diphtheroid bacilli of various orders, while not common, are, as might be expected, more frequent in open wounds. There is no evidence that these have exerted deleterious effects. (7) There is a certain amount of evidence that particular species of diphtheroid bacilli characterize particular hospitals.

The Value of Flavine. A Clinical Appreciation.—Mearns Savery, in *The British Medical Journal*, is of opinion that many cases of failure are due to the improper use of flavine as an antiseptic. He draws attention to the following essential facts: (1) In the first place it is imperative that all affected parts should be reached as far as possible, and in order to carry this out thoroughly he always endeavors to introduce flavine solution by means of a hypodermic or dental syringe; (2) The flavine-soaked gauze should always be applied as wet as possible and any cavities filled up with the solution immediately before, and the part covered with a piece of mackintosh and wool; (3) A third important feature is the duration of the use of flavine—if applied continuously, a yellowish "pedicle" will appear on the surface of the wound in the course of a few days. This pedicle appears to be composed of leucocytes and fibrin. He notes that in several cases in which he has employed double saline solution (that is, 1.7 per cent NaCl) instead of the usual normal saline, this pedicle has failed to appear, and points out that the solution should not be used over prolonged periods as it seems to predispose to irritation of the skin and the appearance of a rash. Savery concludes that the best results from flavine are obtained from its early

application and that the appearance of the pedicle is an indication that a change to esol, brilliant green, magnesium sulphate, or other antiseptic should be made about the fourth day, after which flavine should be given once in every three days. In his experience this method has given great satisfaction. He emphasizes the point that it should be more generally recognized that it is the early effect of flavine, which follows within several days after its application, which is the most important feature, and that proper advantage should be taken of this fact.

Choledocho-Enterostomy for Constriction of the Common Bile-Duct Following a Perforated Duodenal Ulcer.—Sneath, in *The British Medical Journal*, mentions a case that went to the hospital to have an incisional hernia the size of a football repaired. He gave a history of having been operated upon six months earlier. Following his operation he drained bile for three months. There was a healed scar in the right iliac fossa.

The patient was in an emaciated condition, jaundiced, and could not eat proteid and fatty foods. The faeces were clay-colored and contained no bile. The urine contained bile. His temperature rose to 101 deg. five days after admission, and large quantities of bile again drained from the sinus. The jaundice disappeared following this, but there was no bile in the faeces.

It was decided to operate, to dissect out the sinus tract and to repair the hernia. The omentum was adherent to the hernial sac and to the liver. The transverse colon was also adherent to the liver. Loops of small intestine were adherent to the sac; in their removal they were damaged and had to be repaired. After freeing the sac, the biliary sinus was dissected out and traced downward and backward where it entered a large cystic swelling, which was lined with mucous membrane and contained six ounces of thick, viscid, green bile. Further investigation showed it to be a large dilatation in the common duct. The gall-bladder was fibrosed and contracted and contained only a small quantity of mucus. The pylorus was adherent to its neck. Many other adhesions existed between the omentum, small intestines and stomach, but they were not disturbed.

The opening in the dilated common duct was brought forward and sutured to the peritoneum; a drainage tube was inserted into the cyst. A tube was also sutured into the gall-bladder. The hernia

was repaired. After the operation the faces continued to be clay-colored, and the sinus showed no attempt to close.

The most likely explanation of the condition was thought to be that there had been a perforating duodenal ulcer, the cicatrix of which had constricted the common duct. The local inflammation around the gall-bladder and cystic duct caused obliteration of the duct so that the gall-bladder did not yield to pressure of the secreted bile.

This surmise was later confirmed. The patient had been operated upon six months earlier for a perforated duodenal ulcer with general peritonitis. There was much pus in the peritoneal cavity and the counter-opening was made for drainage. Since there was no bile entering the intestine it was decided to do a second operation to endeavor to construct a new channel by making an opening between the dilated common bile-duct and the small intestine.

The abdomen was again opened, the sinus dissected out down to the dilated duct, which had, however, contracted considerably. The opening in the dilated duct was clamped. A loop of jejunum was then brought up through the transverse mesocolon and an anastomosis was made between this loop and the dilated bile-duct. This was difficult on account of the depth of the duct and friability of its walls. Considerable tension remained on the unevenly placed sutures. An anastomosis was made between the two loops of the jejunum under the surface of the transverse colon, in order to prevent intestinal obstruction.

The postoperative convalescence was full of anxiety. There was much vomiting, a temperature of 101 deg., and a rapid pulse; a discharge of bile and digestive juices; and much excoriation of the skin. The patient became emaciated and lost appetite. The faeces were pale and fatty. On the sixth day the discharge of bile and juices became less and by the fourteenth day the discharge had ceased, the stools contained bile, the appetite returned, and the patient began to put on weight. Six weeks later the patient was discharged looking extremely well.

Observations on the Etiology and Treatment of Seborrhic Eruptions. A Preliminary Report.—Barber and Semon, in *The British Medical Journal*, noted in a large number of their cases of seborrhic eruption an associated nasal and nasopharyngeal catarrh, which with the frequency of relapses led to the conception

of an underlying constitutional dyscrasia as a possible cause of the disease. Darier has pointed out the relation between seborrhic eruptions and "kerose" skin and has indicated the etiological factors as being sexual development and erroneous diet, in which excessive carbohydrates and stimulants, faulty mastication, and constipation all played a part. The present authors share Darier's view that the bacteria described as specific by Sabouraud and Unna owe their activity and pathological effects mainly to the soil on which they grow, which in its turn is dependent on the underlying constitutional state of the patient—a view which furnishes an explanation of the frequent relapses suffered. In view of the frequent association of nasal and nasopharyngeal catarrh with the outbreak on the skin, an examination of a number of cases was made by Captain C. Jones-Phillipsson, who found that in 59 out of 93 cases posterior rhinoscopy revealed a yellowish mucopurulent secretion, of varying amount. Simultaneously a streptococcus of the faecalis group (in addition to numerous staphylococci) was recovered from nasal mucosa and skin eruptions. Czerny has shown that certain children present a congenital susceptibility to catarrh as well as to certain nervous disturbances, and to this tendency he has given the name "exudative diathesis," the extreme form of which is known as the status lymphaticus, when secondary changes in the lymphoid tissues of the body have given rise to adenoid vegetations, parenchymatous tonsillitis and adenitis, especially localized in the cervical glands. The manifestations of this diathesis are provoked by excess of diet, and its subjects are particularly intolerant of carbohydrates and fats. In England Czerny's views have been strongly supported by Cameron, who has pointed out that children of the exudative diathesis, or status catarrhalis, are subject to an extreme "wateriness" of their tissues which gives them a fictitious appearance of plumpness. Barber and Semon indicate two types of seborrhic individuals, those congenitally predisposed, or who have acquired the tendency in infancy, and those in whom the state has suddenly appeared as the result of active service. Patients in the first group are far more prone to relapse than those of the second type, and prognosis is more favorable in the latter. As a result of their investigations these authors conclude: 1. That there is a constitutional state which may exist from infancy or may appear de no-

vo in adults, and which may be termed the status catarrhalis or exudativa. Where this condition exists the skin and mucous membranes show an abnormal susceptibility, not only to various bacterial infections, but also to mechanical and chemical irritation. 2. Persons in whom the status catarrhalis is present, either permanently or temporarily, are liable to develop the multitudinous eruptions which have been variously termed seborrheic eczema or dermatitis, true eczema, pustules, boils, and the wrongly termed "impetigo"—really an impetiginized seborrheic eczema. These manifestations, in whole or part, are intimately dependent or associated with the existence of an underlying dyscrasia, to which they have given the name of the status seborrheicus. 3. There is considerable clinical and therapeutic evidence to suggest that all patients with the status seborrheicus are suffering from a relative acidosis. We are of opinion that this condition may have resulted from a diminution of the intake in their food of the fixed bases—the mono- and di-sodium phosphates, and the carbonates, which are normally present in fresh fruits and vegetables, and which are largely responsible for the maintenance of an exact alkaline-acid equilibrium in the blood and tissue fluids. 4. As a practical outcome of these considerations there is abundant clinical evidence of the value of alkalis in the treatment of seborrheic eczema.

The End of the War.—The greatest war the world has ever known has come to an end, and justice and right have prevailed. It has been proven beyond the suspicion even of a doubt that Germany caused the conflagration; and now her people are reaping the reward of following the leadership of such monsters as the ex-Kaiser and his war-lord advisers.

But in addition to causing the war, Germany, through her rulers, especially her military rulers, has carried on the war in a most detestable manner. Every crime thinkable has been authorized by the German militarists and has been committed. Such names as Cyrus, Alexander, Caesar, Ivan, Nero, Attila, Napoleon, Alva, etc., grow dim and appear as nothing when placed beside the ex-Kaiser. What the world owes to those who faced the German hordes in the defence of Liberty no words can express. Their eternal monument is the Freedom of the World, the establishment of Truth and Right.

It has been estimated that in all the

countries engaged in the war there have been at least 45,000,000 casualties, of which at least 10,000,000 are dead, about an equal number soldiers and sailors and civilians. This is the fruit of one man sowing the earth with dragon's teeth.

It is no longer necessary to recite the awful cruelties inflicted upon those who fell into German hands as prisoners of war. These numerous charges have been proven again and again.

Add to all this the destruction of property and the expenditure of billions upon billions in money. Cause of it all was the dream of world power in a madman's brain. We have on several occasions pointed out the perverted psychology of the ruling German mind. This in turn tainted the entire nation.—The Canada Lancet.

Sickness Surveys.—The first sickness survey conducted by the Metropolitan Life Insurance Company was made in Rochester, N. Y. The work was then extended and similar studies were conducted in North Carolina, Boston, Mass., and the Chelsea district of New York City. The company has just issued a report on the Sickness Survey of Principal cities in Pennsylvania and West Virginia, which is the Sixth Community Sickness Survey. The authors are Dr. Lee K. Frankel and Dr. Louis I. Dublin. A separate report is made on the sickness survey of Pittsburgh, Pa.

In the general report, the health status of 374,001 persons was obtained by the company's agents. The agents were asked to record only serious cases of sickness. They discovered 7,333 cases, making the sickness rate 19.6 per 1,000.

It was found that sickness was responsible for the loss of at least 2 per cent. of the effective working time of the wage-earners. This causes not only loss of wages, but frequently is a source of misery and destitution. Of the 7,333 persons reported ill, 6,908, or 94.2 per cent., were unable to work, and 5,384, or 73.4 per cent., had a physician in attendance, 25 per cent. of the sick were in bed at home, 8.2 per cent. were in hospitals, and 61 per cent. were ambulant cases, unable to work. Those sick, yet able to work, constituted 5.8 per cent.

Accidents and injuries were the chief cause of sickness in this survey, amounting to 602 cases, or 11.2 per cent. Then came "rheumatism," which amounted to 433 cases, or 80.0 per cent. "Rheumatism" probably refers to such diseases as neuritis, tuberculosis, gonorrheal, and

post-traumatic diseases of the joints, bones and muscular system and function neuroses. Influenza caused 392 cases of sickness; pneumonia, 307 cases; diseases of the stomach, 183 cases; functional disorders of the nervous system, 181 cases; tuberculosis of the lungs, 180 cases; colds, coryza and rhinitis, 166 cases; bronchitis, 156 cases; normal childbirth, 125 cases. There were other causes of sickness, such as asthma, diseases of the heart, tonsillitis, appendicitis, cerebral hemorrhage, apoplexy and paralysis.—American Journal of Public Health.

Treatment of Skin Diseases Based on the Theory of Oxidation and Reduction.—Montgomery (British Journal of Dermatology and Syphilis) expresses the opinion that some of the skin diseases of unknown etiology are due to chemico-physical causes. Some chemico-physical causes will produce a rash directly, others indirectly, by rendering the skin less resistant to organisms which are normally only saprophytic upon it. There are other chemico-physical causes that render the blood too acid, a condition which may not directly cause a dermatitis, but one which may do so indirectly, by lowering the patient's resistance to organisms which cause seborrhea and seborrheic eczema.

Arsenical dermatitis is not a distinctive dermatitis, for it may commence as an urticaria, an erythema multiforme, a dermatitis scarlatiniforme, and a cheiropompholyx. When fully developed it may be indistinguishable from a dermatitis exfoliativa, a seborrheic eczema, a pityriasis rubra, etc. Arsenic, when it produces a dermatitis, does so in the following way. It uses up all the available peroxide, which results in lessening the amount of active oxygen formed. As a balance exists in the serum between the active oxygen and active hydrogen, it will necessarily follow that if the active oxygen is destroyed there will be an excess of active hydrogen. As it is essential for the blood to be on the alkaline side of neutrality, this condition is not fulfilled if the hydrogen ion concentration is raised, or in other words, if the blood becomes too acid. When arsenic makes the blood too acid the endothelial cells and the walls of the peripheral blood vessels become damaged, with the result that they dilate and the other changes associated with inflammation ensue. If this is the correct interpretation two inferences can be drawn: (1) that the dermatitis should vanish if the blood is made alkaline again; (2) that

other skin diseases resembling arsenical dermatitis are due to some unknown agent which makes the blood too acid. If the other skin diseases are caused by an increased acidity of the blood they should also vanish if the blood is made alkaline. As arsenic destroys the peroxide the main aim is to replace this because active oxygen cannot be formed in its absence. The most powerful peroxide former is intramine, a sulphur compound. Intramine will quickly cure an arsenical dermatitis, and it will cause the temporary disappearance of those skin diseases which resemble this dermatitis.

In acute inflammatory conditions the oxidizing action of the protective substance is at its best, but as the inflammation continues the oxidizing action gets worn out with the result that the reduction in action comes to the fore. Therefore, in chronic inflammatory conditions, reducing chemotherapeutic agents should first be used, then oxidizing chemotherapeutic agents, and vice versa in the acute stages. Inflammatory conditions can therefore be benefited by the proper use of oxidizing and reducing drugs. The future, then, of skin diseases lies in discovering the chemico-physical substance which causes this or that dermatitis.

In the human body the oxidase is iron. Why iron when there are plenty of other metals? The metal which acts as the oxidase in many invertebrates is copper, and in plants manganese.

He relates some of his experiences with the chemico-physical treatment of various skin diseases. Colloidal manganese proved highly efficacious in the treatment of staphylococcal infections of the skin (boils). Taking 100 cases of boils at random, 50 treated by the usual methods including vaccines, and 50 treated by manganese alone without even local treatment, the average stay in the hospital of the former was fifty days, and of the latter seven days.

In impetigo contagiosa it was useless, but in ecthymous impetigo the results were good.

In acute cases of folliculitis manganese has not done any good, but in subacute cases manganese was useful. In such cases even one injection will cause the disappearance of the tiny furuncles and prevent other from reappearing.

In acute abscesses and acute inflammations of the subcutaneous connective tissue manganese has produced really startling results.

In seborrheic eczema manganese alone was useless. Intramine alone would pro-

duce a great improvement and a combination of the two would in some cases cure the condition.

Artificial Pyogenesis in Peri-Nephritic Abscess.—Borle (Medical Journal of South Africa) relates the following case: A patient, 20 years of age, was admitted to the hospital for a carbuncle on the right elbow in the olecranon region. Staphylococcus infection. Incision and proper treatment brought about recovery. About three months later he was readmitted because of high fever and acute pain in the region of the spleen. He stated that he had had no boils or abscesses since he had left the hospital, but some time after having been home, pains started below the left costal arch.

Examination of the blood for malaria was negative, nevertheless the patient was put on antimalarial treatment, with no result. Subsequent examination showed tenderness to pressure in the region just below the left costal arch, enlarged spleen, no signs of peritonitis, no tenderness or rigidity of the abdominal muscles. Urine showed slight traces of albumin. Examination of left dorso-lumbar muscles negative; no redness and no tenderness, but on deep pressure patient complained of severe pain in the region of the spleen. A deep fluctuation was also present. Diagnosis of perinephritic abscess.

An inch incision parallel to the costal arch evacuated about 10 ounces of pus (staphylococcus and micrococcus tetragenous). The wound was drained with rubber drain, but this was expelled, and although the fistula was still draining, the temperature rose again. The author tried to do a "deviation abscess" (to deviate to the surface a deep-seated abscess so that it becomes easily accessible for treatment), but while he succeeded in obtaining the "deviation abscess," it had little effect on the perinephritic fistula, which began to discharge more. Notwithstanding the "deviation abscess," it has little rose again, the leucocytosis became very marked and the pain over the spleen very acute, so that it was necessary to operate on the patient again.

The Differential Diagnosis Between Functional and organic Paraplegia.—Williamson, in The British Medical Journal, refers to the importance of differentiating between cases of malingering or functional paraplegia and those of organic disease. Certain reflexes are of the greatest service in the differential diagnosis and early recognition of organic disease. Es-

pecially valuable in early cases are the Babinski or Oppenheim reflex, and in many cases the loss of the tendo Achillis reflex. The chief difficulty occurs when the knee joints are not lost, and when ankle clonus, rectus clonus, and clasp knife rigidity are not obtained. In many cases the Babinski or Oppenheim reflex is diagnostic of organic disease; in others the plantar reflex is not of the Babinski type, and it may be lost or feeble, in which case the loss of the tendo Achillis reflex would be diagnostic of organic disease. The following are combinations of diagnostic importance, especially at the onset of a number of organic affections: Paresis with loss of the tendo Achillis reflex, as in early anterior poliomyelitis—chronic, subacute, or acute; Paresis with loss of the plantar reflex and loss of the tendo Achillis reflex (in many organic diseases); Paresis with double sciatica, and loss of the tendo Achillis reflexes, as in early cauda equina lesions; Paresis with loss of the tendo Achillis reflex, loss of vibrating sensation, and pains in the legs, as in early peripheral neuritis; Loss of the vibrating sensation with very slight incoordination and very slight paresis, with or without a Babinski reflex, as in early combined postero-lateral degeneration of the cord; Paresis, with Babinski reflex (in many organic affections); Paresis with loss of the vibrating sensation and Babinski reflex (in the early stages of several organic diseases of the cord); Root pains, or root symptoms, followed after a period of weeks or months by paresis as in meningeal spinal tumour. In all these early combinations, Williamson points out that the knee-jerks may be obtained. In difficult cases, he has found the Babinski or Oppenheim reflex, the loss of the tendo Achillis, and the loss of the vibrating sensation whilst other forms of sensation are unaffected, of the most value in reaching a diagnosis.

Checking the Senses.—Bear in mind that each of you, the field commander of your own life's warfare, lives in a dugout. You are helpless except for your lines of communication, your senses. Guard them as a most precious possession. Train them to do their work well; watch them; suspect them. Send your eyes to spy on your ears. Bring up smell to reinforce vision. Suspect the message and send the messenger back again to examine, and again to re-examine, until you are sure the news is true; sure that the valvular sound is such and no other; sure that the reflex is absent; sure that the urine con-

tains albumin; sure beyond a doubt of the thousand items of sense information that come to your headquarters and are needed in your business—the warfare on disease.—E. P. Lyon, Texas State Journal of Medicine.

Winter Chaps and Irritations.

Many a doctor, obliged to spend many hours each day facing the cruel blasts of winter, knows only too well the distress and misery of skin chaps, peeling cheeks and cracked lips.

Many different applications have been used to overcome the effects of wind and cold weather, and to increase the resistance of the skin. None has proven more satisfactory than K-Y Lubricating Jelly. Remarkably soothing and softening in its effect, this non-greasy, water-soluble, and colorless product not only allays smarting, burning, and irritation in general, but also contributes materially to healing and the restoration of a natural condition of the epidermis. Well rubbed into the skin of the face and hands before exposure to cold and wind, and immediately on returning indoors, K-Y Lubricating Jelly will go far to prevent wind burn and chapping, and keep the skin soft and pliant.

Briefly, K-Y Lubricating Jelly possesses distinctive emollient properties which enable the physician to relieve, control and overcome a variety of simple skin afflictions, not only with gratifying promptness and efficacy, but with the unquestionable advantages that attend the use of a preparation that is greaseless, water-soluble, and cleanly.

Advantages of Total Abdominal Hysterectomy, Especially in Pelvic Suppurations.—Rochard (Bull. Acad. de Med.), states that for a considerable time subtotal hysterectomy has replaced total hysterectomy. He believes this practice wrong and favors the total operation. It does not deserve the objections that have been made against it; and a cervix left in situ often becomes the site of epithelioma. In severe cases of pelvic suppuration the total operation gives effective drainage.

Since 1908 the author has carried out the total operation, which he divides into two stages. A subtotal hysterectomy is first done, which is followed by the secondary removal of the uterine neck. This he calls "subtotal hysterectomy totalized."

The author shows that the dangers which some authors declare connected

with the total operation, i. e., hemorrhage, injury to the ureters, shock, and infection, are easily avoidable. The difficulty of operation, which was its chief drawback, has been obviated by thus dividing it into two stages and it becomes easy and rapid.

His statistics from February, 1917, to February, 1918, comprise 122 laparotomies for salpingitis, ovarian cancer, etc.; 48 were subtotal and 22 total. All these, as well as 7 other recent total hysterectomies, have given only 1 death.

He practices total hysterectomy in two stages whenever the neck appears doubtful on palpation, whether the process is uterine or adnexial; also in double pelvic suppuration whenever the lower pelvis is involved.

Histopathology of Muscle in Gas Gangrene: Contusion, Ischemia and Infection—Rene Sand (Ambulance de l'Océan) discusses the various pathological changes in the structure of muscles in gas gangrene under the three following heads: (1) lesions due to mechanical cause; (2) lesions due to circulatory disturbances; (3) lesions caused by toxic infection. In his studies he has endeavored to avoid three very common errors, i. e., he did not restrict himself to cases of gas gangrene but made comparative studies, noting the alterations due to direct compression of muscle as well as those due to gas gangrene. In the matter of technic he advises the use of frozen sections rather than those embedded in paraffin, for he believes that in the latter process the muscle suffers a distortion of its fibers, an effacing of transverse striations with a dissociation of myofibrils. His third care was in the matter of cutting out the blocks for study to avoid disfiguring the form and structure of the muscle elements. Of the 50 cases studied the author never found fatty degeneration or infiltration, amyloid or calcareous deposits in the tissues. Of the lesions produced by shock at a distance, contusion, compression or incision, he found the following changes occurred: (1) interstitial hemorrhages, interstitial ecema and edema of the muscle fibers; (2) loss of transverse striations with greater clearness of longitudinal markings; (3) hyperplasia of the nuclei of the sarcolemma; (4) necrosis of muscle fiber. The majority of these alterations are temporary, not found after fourteen days. In the lesions due to circulatory disturbances, total ischemia, ischemia and lymphatic stasis by compression for several hours and prolonged to

tal ischemia with severing of nerve (Volkmann's disease), he observed characteristic changes. At the beginning there was edema of the muscle fibers, with slight interstitial edema, then total necrosis of the muscle and connective tissue and finally the muscle fiber lost all semblance of structure and became a flaky mass. In the third group we find a study of cases of toxic infection in which the characteristic changes are a hyaline degeneration of the connective tissue and muscle fibers and necrosis and fragmentation of the latter. The typical lesions of gas gangrene are hemolysis, hyaline degeneration and necrosis of connective tissue and muscle fibers. It may be that a preliminary contusion is essential for the development of gas gangrene, but the extension of the lesion is the function of the bacillus; where there is no *Bacillus perfringens* there is no gangrene. The microorganism becomes embedded in the interstitial tissue; it fasten itself on the muscle fiber and by its toxins produces degeneration and necrosis of the fiber and penetrates farther only when this fiber is in a state of entire disintegration and death. The action of the toxins of *Bacillus perfringens*, he claims, is incontestable. The reabsorption of the toxic products engendered by the disintegration of muscle brings about certain visceral disturbances, notably nephritis.

Every Day Aches and Pains.

The importance of paying attention to the little things of every day life is based on sound common sense. Thus the prompt relief of the comparatively slight and inconsequential aches and pains that medical men so often encounter in their daily work not infrequently constitutes therapeutic genius and lays the foundation of many a physician's professional success. It is the doctor who is able to control and overcome a severe headache, an attack of trifacial neuralgia or the pain of lumbago, to whom the people sooner or later come with their big life and death problems.

All of which indicates why K-Y Analgesic should commend itself to the discriminating physician whenever he needs a safe and effective local anodyne. K-Y Analgesic is not offered to the practitioner, however, with any idea that it will take the place of, or make unnecessary, general or systemic treatment.

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In other words, K-Y Analgesic is a non-greasy, local anodyne, remarkably effective in its proper field of use, and one that the painstaking medical man will become more and more attached to as he sees and appreciates its efficacy, its cleanly character, and complete freedom from disagreeable or harmful effects.

Health of Brazil.—The famous saying "Brazil is a vast hospital" is in a fair way of being outlawed. Yellow fever is stamped out and the government has made an immense appropriation for supplying prophylactic quinine to the entire community. To these achievements must be added the labors of the Oswaldo Cruz Institute in the realms of scientific prophylaxis of communicable diseases of all kinds.—Brazil-Medico.

Chancroid of the Vagina.—Courtade reports two cases of this rather rare localization; this infrequency may be only apparent, for unless the speculum is used in routine work one can never be certain of their absence.—Annales des Maladies Veneriennes.

The Care of the New Born Infant.

The conservation of infant life is one of the chief problems confronting the American people. Recognition of this, has emphasized the great need of proper care of the infant at birth. The eyes, the umbilical cord, the mouth, nose and ears, and the skin of the new-born babe all require painstaking attention, or conditions are sure to arise that not only may lead to the most serious consequences, but may even jeopardize the baby's life.

As a practical aid to the proper care of the new-born infant the Johnson First Dressing Packet for Infants has met the hearty approval of the medical profession. Simple and compact, each Packet contains everything necessary for the proper dressing of the cord, the cleansing and disinfecting of the eyes, mouth, etc., and safeguarding the baby against infection. The practical utility of these First Dressing Packets has appealed to the physician who does obstetrical work, for better than anyone else, he realizes how much their widespread use means in "starting the baby right." Inexpensive in price and put up in a way that insures their freedom from contamination, one or more of these Packets should be recommended by medical men to every expectant mother as an essential detail of her equipment. They are obtainable of all druggists or physicians supply houses.

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Meta-Chancere, Preroseolar Meningitis.

—Lavau (Annales de Dermatologie et de Syphilographie) reports the histories of 9 patients in the primary stage of syphilis, in 6 of whom there were changes in the cerebrospinal fluid. He shows also that two-thirds of the cases had meningitis before the outbreak of the eruption. This meningitis expresses itself by headaches, but usually it is latent and can only be revealed by examination of the cerebrospinal fluid. The symptoms of the meningitis may be increased by an intravenous salvarsan injection; the patients then have vomiting, photophobia and Kernig's sign.

This reaction is not, however, constant and is not by any means parallel with the changes in the spinal fluid. It may be absent in spite of pronounced changes in the fluid and may be frequently present notwithstanding a normal liquor cerebrospinalis. Lavau asks if a part of reaction cannot be blamed on the lumbar puncture.

After the augmentation of the symptoms Lavau found that neosalvarsan works excellently on the meningitis which is at times very resistant to the therapy. It may however disappear spontaneously. In pronounced changes of the cerebrospinal fluid in the beginning of the secondary period one must be very careful with the dosage of the neosalvarsan.

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Jacksonville, Fla.

R. N. Green, M. D., Pres.,
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The Best costs no more than—

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THE DYNAMOGENIC HORMONE TONIC
FOR
ASTHENIC CONDITIONS

A well-known physician writes :

"No medicine of this character has ever before been devised that produces the uniformly good results when used in suitable cases as does Hormotone, and it has come to be my main reliance in a certain class of neurasthenics with a loss of tone in the general musculature."

Indications: Neurasthenia; "run down" conditions; suboxidation; neuroses; menstrual and climacteric disorders; cardiac asthenia; low blood pressure.

DOSE: One or two tablets three times daily before meals.

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[The hydrochloride of diethyl-amino-propyl-cinnamate.]

APOTHESINE is applicable in any case in which any other local anesthetic is advantageously used.

It is not a derivative of cocaine; it is not subject to the narcotic law; it does not induce "habit" formation.

It is far less toxic than cocaine and most of the other synthetic anesthetics.

It dissolves readily in water or alcohol.

It forms neutral solutions (not acid).

It may be sterilized by boiling.

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Apothesine is a product of American origin and manufacture. When using it you pay no tribute, directly or indirectly, to foreign patentees.

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"Spanish Influenza"

The exact nature of the virulent epidemic of influenza which has been raging several months in Europe, and is now rapidly spreading over the United States, has not been determined. Chief attention is focused on the streptococcus, but the pneumococcus, micrococcus catarrhalis and bacterium influenzae ("Pfeiffer's bacillus") have also been noted.

Inasmuch as many of the cases present the symptoms of an acute catarrhal infection, *prophylactic immunization* with a mixed vaccine is a wise precaution, notwithstanding the absence of proof as to the completeness of the protection thus conferred.

INFLUENZA VACCINE, COMBINED.

This vaccine represents precisely the organisms mentioned above. It constitutes a rational agent for building up resistance against infection.

It is suggested that the initial dose be $\frac{1}{4}$ mil (600 millions), increasing the amount to $\frac{3}{4}$ mil (900 millions) on the second dose, and to 1 mil (1200 millions) on the third and subsequent injections.

CATARRHAL VACCINE, COMBINED.

This vaccine is to be used for more general immunization and has proved very efficient for both prophylactic and therapeutic treatment of acute catarrhal infections, including the "grippy colds" often diagnosed as "influenza." It represents all of the organisms contained in the Influenza Vaccine, Combined, in addition to others commonly associated with respiratory infections—namely, staphylococci, diphtheroids, and Friedlander's bacillus (Bacterium pneumoniæ).

SILVOL.

Local treatment of the nose and throat has definite value as a prophylactic of influenza. For this purpose Silvol is confidently recommended. In certain military camps the nose and throat of every man are sprayed daily with a 5-per-cent. solution of Silvol. This procedure, according to reports, results in a marked reduction of the number of new cases.

CHLORETONE INHALANT.

This soothing antiseptic is efficacious when sprayed into the nose and throat. It has been used for many years with marked success in the treatment of naso-pharyngitis and laryngitis. It is administered full strength.

GLASEPTIC NEBULIZER.—This is an admirable instrument for spraying Silvol solutions and Chloretone Inhalant. It produces a fine spray and is suited to both aqueous and oily solutions. The addition of 20 per cent. of glycerin to aqueous solutions is advisable to increase their density. The nebulizer is equipped with a glass throat-piece.



The various products above mentioned are commended to the consideration of practitioners in districts where catarrh or influenza prevails.

Home Offices and Laboratories,
Detroit, Michigan.

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is a palatable aid to digestion; an agreeable vehicle for iodids, bromids, salicylates, etc., and supplies the curdling ferment for making junket.

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SOUTHERN MEDICAL SOCIETIES



SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Annual Meeting at Baltimore, Md.,
December 17-19, 1918.

H. A. Royster, Secretary,
Raleigh, N. C.

I. S. Stone, M. D., Pres.,
Washington, D. C.

SOUTHERN MEDICAL ASSOCIATION

Annual Meeting at Asheville, N. C.,
November 11-14, 1918.

Seale Harris, M. D., Sec.,
Birmingham, Ala.

Lewellys F. Barker, Pres.,
Baltimore, Md.

TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA

Annual Meeting at Richmond, Va.,
February, 19-20, 1919.

Dr. R. S. Cathcart, M. D., Pres.,
Charleston, S. C.

Rolfe E. Hughes, M. D., Sec.,
Laurens, S. C.

MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA

Annual Meeting at Pinehurst, N. C.,
April, 1919.

Benj. K. Hays, M. D., Sec.,
Oxford, N. C.

Cyrus Thompson, M. D., Pres.,
Jacksonville, N. C.

SOUTH CAROLINA MEDICAL ASSOCIATION

Annual Meeting at Florence, S. C.
April 15-16, 1919.

Edgar A. Hines, M. D., Sec.,
Seneca, S. C.

James A. Hayne, M. D., Pres.,
Columbia, S. C.

MEDICAL SOCIETY OF VIRGINIA

Annual Meeting at Richmond, Va.,
October, 1918.

Paulus A. Irving, M. D., Sec.,
Farmville, Va.

Ennion G. Williams, M. D., Pres.,
Richmond, Va.

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Annual Meeting at Mobile, A.
April 21, 1919.

H. G. Perry, M. D., Sec.,
Montgomery, Ala.

Isaac L. Watkins, M. D., Pres.,
Montgomery, Ala.

STATE MEDICAL ASSOCIATION OF TEXAS

Annual Meeting at Waco, Texas,
May 13-15, 1919.

H. Taylor, M. D., Sec.,
Fort Worth, Texas.

S. P. Rice, M. D., Pres.,
Martin, Texas.

AMERICAN MEDICAL EDITORS' ASSOCIATION

Annual Meeting at Atlantic City, N. J.,
(Date not decided)

J. MacDonald, Jr., M. D., Sec.,
92 Williams St., New York.

G. W. Kosmak, M. D., Pres.,
New York.

FLORIDA MEDICAL ASSOCIATION

Annual Meeting at Miami, Fla.
(Date not decided)

G. E. Henson, M. D., Sec.,
Jacksonville, Fla.

Frederick J. Walter, M. D., Pres.,
Daytona, Fla.

MEDICAL ASSOCIATION OF GEORGIA

Annual Meeting at Atlanta, Ga.
April 16-18, 1919.

J. W. Palmer, M. D., Pres.,
Ailey, Ga.

W. C. Lyle, M. D., Sec.,
Atlanta, Ga.

KENTUCKY STATE MEDICAL ASSOCIATION

Annual Meeting at Ashland, Ky.,
October, 1918.

Arthur T. McCormack, M. D., Sec.,
Bowling Green, Ky.

P. H. Stewart, M. D., Pres.,
Paducah, Ky.

LOUISIANA STATE MEDICAL SOCIETY

Annual Meeting at Shreveport, La.,
April 8-10, 1919.

P. T. Tolbot, M. D., Sec.,
New Orleans, La.

W. H. Knolles, M. D., Pres.,
New Orleans, La.

MISSISSIPPI STATE MEDICAL ASSOCIATION

Annual Meeting at Hattiesburg
(Date not decided)

T. M. Dye, M. D., Sec.,
Clarksdale, Miss.

W. S. Leathers, M. D., Pres.,
University, Miss.

TENNESSEE STATE MEDICAL ASSOCIATION

Annual Meeting at Nashville.
(Date not decided)

Olin West, M. D., Sec.,
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Richmond McKinney, M. D., Pres.,
Memphis, Tenn.



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Laryngitis,
Otitis Media,

Ozena,
Pharyngitis,
Posterior Urethritis,
Rhinitis,
Sinus Infections,
Tonsillitis,
Trachoma,
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